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Notice of Intention

To Begin a Large Mining Operation

DOGM NO. M0490070

Submitted by:

W.W. Clyde & Co.

P.O. Box 350

Springville, Utah 84660

To:

Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114-5801

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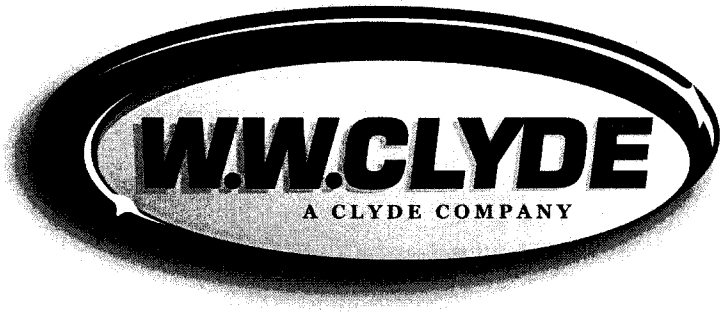
Notice of Intention

To Begin a Large Mining Operation



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W.W. Clyde & Co. – Woolsey Quarry – NOI

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Figures

Figure 8: Soil Map

Figure 9: Geology Map

R647-4. Large Mining Operations

R647-4-101. Filing Requirements and Review Procedures

This NOI is submitted to the Utah Division of Oil, Gas and Mining (DOGM) in compliance with part R647-4 of the Utah Minerals Reclamation program by W.W. Clyde & Co..

The proposed quarrying operation is located in Utah County, Utah, on a 80-acre parcel leased by W.W. Clyde & Co.(Clyde). Clyde proposes to include by this NOI the quarrying of limestone in its future operation. The proposed quarry is located in Sections 23 & 26 of T11S, R8E, SLBM.

R647-4-102. Duration of the Notice of Intention

It is understood that, when approved, this NOI, including any subsequently approved amendments or revisions, remains in effect for the life of the mine. However, Clyde acknowledges that the Division of Oil, Gas, and Mining (DOGM) may review the permit and require updated information and modifications when necessary.

R647-4-103. Notice of Intention to Begin Large Mining Operations

Clyde's NOI addresses the requirement of the rules listed in this section as follows:

104. Operator(s), Surface and Mineral Owner(s)

105. Maps, Drawings, and Photographs

106. Operation Plan

108. Hole plugging Requirements

109. Impact Assessment

110. Reclamation Plan

112. Variance

113. Surety

R647-4-104. Operator, Surface and Mineral Owners

1. Mine Name: Woolsey Quarry
2. Operator: W.W.Clyde & Co.
   P.O. Box 350
   Springville, Utah 84663
   Phone: 801-802-6800
   Fax: 801-802-6830
   Email: http://www.wwclyde.net/

   Type of Business: Corporation
   Utah Business Entity No.: 570716-0412
   Local Business License No.: 639
   Issued by: Utah County

   Registered Utah Agent: Dave Hales
   P.O. Box 350
   Springville, Utah 84663
   Phone: 801-802-6808
   Fax: 801-802-6830
   Email: dhales@wwclyde.net

3. Permanent Address: W.W. Clyde & Co.
   1375 North Main
   Springville, Utah 84663
   Phone: 801-802-6800
   Fax: 801-802-6830
   Email: http://www.wwclyde.net/

4. Contact Person for Permitting, Surety, Notices:
   Bruce Dallin
   W.W. Clyde & Co.
   P.O. Box 350
   Springville, Utah 84663

Phone: 801-802-6813
Fax: 801-802-6830
Email: bdallin@wwclyde.net

5. Location of Operation: SW1/4, Section 23, T11S, R8E, SLBM
NW1/4 Section 26, T11S, R8E, SLBM

6. Ownership of Land Surface: John R. Woolsey
HC 35
Box 410
Helper, Utah 84526

7. Owners of Record of Mineral to be Mined:
Mary Street
345 W. 400 N.
Richfield, Utah 84701-5048

8. BLM Lease or Project File Numbers:
None

9. Adjacent Land Owners:

Tax ID #	OWNER	ACRES	MAILING ADDRESS	CITY	ST	ZIP
330570021	DENVER RIO GRANDE WESTER	37.2	PO BOX 5482	DENVER	CO	80217
330560024	WOOLSEY, JOHN R	26.7	HC 35 BOX 410	HELPER	UT	84526
330580012	WOOLSEY, JOHN R	40.0	HC 35 BOX 410	HELPER	UT	84526
330580020	DENVER AND RIO GRANDE WE	38.9	PO BOX 5482	DENVER	CO	80217
330580018	MOONEY FAMILY L.L.C. ET AL	120.0	4392 ZARAHEMLA DR	SALT LAI	UT	84124
330560023	WOOLSEY, JOHN R	13.0	HC 35 BOX 410	HELPER	UT	84526
330580017	LEE, CORA ET AL	319.2	HC 35 BOX 200H	COLTON	UT	84526
330580014	SOUTHWORTH, EMMA L	55.6	1421 CHURCHILL DOWNS DR	SANDY	UT	84092
330560032	FINCH, DENNIS V & GLORIA ET	46.4	HC 35 BOX 200	HELPER	UT	84526

10. Have the land, mineral, and adjacent owners been notified in writing?
The lease with the land owner and mineral rights owner is attached in Appendix E. The adjacent land owners have not been notified.

11. Does Permitee/Operator have a legal right to enter and conduct mining operations on the land covered by this notice? Yes, see attached leases in Appendix E.

R647-4-105. Maps, Drawings, and Photographs

Maps, drawings, and photographs are provided as requested.

105.1.Base Maps: Figures 1 and 2

Figure 1 Mine Location/ Base map and shows the mine area and surroundings and is printed at a scale of 1"=2000'. It also shows streams, springs, water bodies, roads, buildings, topography as required. There are no known underground workings within the proposed permit area.

Figure1a Investigation Results Overview is printed at a scale of 1"=400'. It shows the location of each exploratory drill hole along with the depth of topsoil, overburden and limestone.

Figure 2 Land Ownership Map is printed at a scale of 1"=400' and shows the property boundaries, surface ownership of the mine and adjacent lands.

105.2. Surface facilities maps: Figures 3 and 4

Figure 3: Existing surface contours, is printed at a scale of 1"=400' and shows existing surface contours, existing dirt access roads, railroad, water ways that pass through or near the lands to be affected.

Figure 4: Mine Plan Map, is printed at a scale of 1"=300' and shows the phased progression of the mining. It also shows the pond area, topsoil storage areas, and overburden storage area. No waste water is generated in this mine, therefore no discharge areas are shown. Storm water is held against the high wall in the quarry, and in detention pond at the asphalt plant area, which is shown on the map.

Figure 4a: Mine Excavation Plan is printed at a scale of 1"=300' and shows the final build out contours of the quarry area of the mine. The build out contours of the water storage pond are shown on this drawing. It also shows the section lines for the sections shown on Figure 6.

Figure 4b: Details for Crushing and Asphalt Plant

105.3. Reclamation Treatments: Figures 5 and 5a

Figure 5 Reclamation Treatments map is printed at a scale of 1"=300' and shows details about reclamation treatment areas, including what disturbance, such as highwalls, topsoil stockpiles and roads, will be reclaimed. A border outlining the extent of the area to be reclaimed vs. the

affected area is shown. Salvaged overburden will be used to slope the highwalls during the reclamation process so that no quarry faces will be left exposed when reclamation is complete.

Figure 5a (5A-1): Storm Water Runoff Plan is printed at a scale of 1"=300' and shows the final drainage configuration from the reclaimed lands. These areas are shown on the map. All floor slopes will be 2% or less.

Figure 5b: Erosion Control BMP's depicts many of the best management practices (BMP) to be employed as part of a comprehensive erosion control effort within the limits of the mine property.

104.4. Additional Maps:

Figure 6 shows cross-sections of the reclaimed pit.

Figure 7 is a Utah Division of Water Rights map showing area water rights.

Figure 8 is a soils map.

Figure 9 is a Geology map.

R647-4-106: Operation Plan

106.1. Mineral to be Mined

The Woolsey quarry will produce limestone aggregate for construction materials including concrete and asphalt.

106.2. Type of operation to be conducted

Clyde primarily extracts aggregate rock for use as road base, landscape rock, and other construction products. The projected future use of the aggregate will include asphalt production.

Mining Operation

Clyde will remove limestone rock from the active mine area by drilling, blasting, and dozing methods. New disturbance occurs at the north perimeter of the mine and progresses along the south west rim of the plateau. The hill slope will be developed in phases, shown in order of development on **Figure 4.** Each numbered area contains enough material to last for roughly 10

years. Mining may extend into the proceeding area prior to completely mining out the previous area in order to maximize safety, rock quality, and production needs.

Rock is removed by drilling and blasting to release a "lift" of rock approximately 30 feet deep and up to two acres in size. Extraction of this loosened rock occurs by sequentially working downward through the exposed rock. The maximum depth of the limestone is 40 feet, so it will be mined in one complete lift. Rock is removed from the working face or feed zone with a loader and, either placed in dump trucks, or transported directly to the processing area where the rock is separated and adjusted to specific sizes for processing at one facility. The facility is a crushing and sizing operation. Sizing for the final product is determined by specifications provided by customers.

Crushing Operation

Once the rock is removed from the working face (see Figure 4), the material is brought a short distance to the "jaw crusher" by a front-end-loader where it is broken down to 6-8" for initial sizing. The crushed rock is moved by conveyor to a 30-50 CY surge hopper. Aggregate is metered from the surge hopper by conveyor to the secondary crushing unit which may either be a primary horizontal impact crusher or a 54" roller cone crusher. The secondary crusher crushes the aggregate to 2" minus. Conveyors then direct the aggregate to 3-deck sizing screens to split the aggregate stream into three or four different product sizes.

Any oversize aggregate not passing one of the three screen sizes is directed by conveyor to a tertiary crusher, which is either a vertical shaft impact crusher or a fine crushing, roller cone crusher. The aggregate from the tertiary crusher is then directed back up to the 3-deck screens in a closed circuit. The crushing plant is controlled by motor control circuitry located in the control tower manned by the crusher operator.

The finished products come out of the crushing plant and are conveyed or moved by loaders to the aggregate storage piles where they are stored until sold. When an order is placed for the respective size aggregate they are loaded onto trucks for delivery to the customer or transported to either the concrete plant or asphalt plant for further processing. All conveyors are equipped with spray bars that spray water at drop points to control fugitive dust.

Blasting Practices

Blasting will be used in the mining process at the Woolsey Quarry. Blasting is not conducted by Clyde, but is contracted out to a qualified company trained in blasting design and practices.

The mine may conduct blasting up to 0-5 times per year. Blasting rounds include 25 ounce down-hole primers, detonator cords, and Ammonium Nitrate-Fuel Oil (ANFO) pellets. Typical

blasting design is 50 to 100 holes drilled 15-35 feet deep. It is estimated that each hole will be set on a 13ft. X 13 ft. grid.

Before blasting occurs, the tower sounds a warning siren to alert all personnel of an impending blast; at which time all personnel and equipment are removed from quarry area. The siren is then sounded again and the blaster turns on his emergency flashing lights. The blast is then detonated. No one enters the blasting zone until the blaster gives an all-clear whistle.

Concurrent Reclamation

At this time, it is anticipated that no concurrent reclamation will be performed in this mine. . Reclamation is discussed in Section 110 below.

106.3. Estimated Acreage

Approximately 57 acres will be disturbed over the life of the mine. This figure includes all access roads, storage piles, processing areas, mine areas, and affected area. Clyde will confine its mining activities to a 30 acre parcel for the next 10 years.

Table 1: Areas to be affected during the next 10- years, and over life of Mine

Area	Total Affected Acreage	Disturbance Description / Notes	Total Cubic Yards of Topsoil Salvaged
Existing Mine Disturbance	0	Pre-existing disturbance and Phase 1	0
Areas of new mining disturbance	14	To be disturbed in 1-10 years	11,293
Overburden and waste dumps	3	An average of 16" of overburden exists over area to be mined	2,420
Ore and product stockpiles	6	10 acres – situated between the asphalt plant and the crusher	4,840
Topsoil Stockpiles 10' High Max	3	The topsoil will be windrow stockpiled all along the north eastern edge of the mine disturbance.	1,613
Crusher & Asphalt Plant Staging Area & Access/Roads	4		3,227
Sediment Control Ponds	1	Run-off is contained in bermed work area or catch basins in existing disturbance	807

Total 5-year disturbance	**30**		**24,200**
Phase 2	9	To be disturbed during 10-20 years	5,647
Phase 3	9	To be disturbed during 20-30 years	5,647
Phase 4	9	To be disturbed during 30-40 years	5,647
Total disturbance – life of mine	57		45,980

106.4. Nature of material, including waste rock/overburden, and estimated tonnage

Ore

The annual amount of ore generated is greatly dependent on the number and size of the Utah Department of Transportation projects in the area. It is also dependent on the commercial and residential growth in the Carbon – Emery Counties. We project the average annual production for the next five years to average 100,000 tons (55,555 CY) per year.

Historic Mining and Disturbance Area Summary

No historic mining has occurred on this property. In the last 20 -30 years, mining of alluvial deposits has occurred to the west of the Woolsey property, on the west side of the white river. Those deposits were very thin and the quality so marginal that current aggregate specifications has eliminated their potential use as surfacing aggregate sources.

106.5. Soils

As mentioned previously, no mining has occurred on this property and the vast majority of the land has at least 6 inches of topsoil covering the surface. So from the beginning of excavation and mine development, extending through all future phases, suitable soil material will be removed and stored in a stable condition, and used for reclamation of disturbed areas.

Soil map units are shown on **Figure 8**, Soils. Samples of the top 8 inches of soil were collected from seven different locations throughout the mine area. These samples were taken to characterize soils in preparation for future soil salvage. The sample locations are shown on **Figure 1a**. Analytical sampling results are shown in **Table 2** below.

Table 2: Analytical Results of Fall, 2008 Soil Samples, Top Twelve Inches of Soil*

Soil Parameter	TP#1	TP#2	TP#3	TP#4	TP#5	TP#6	TP#7	Units
Texture	Clay Loam	Loam	Clay	Clay Loam	Clay Loam	Clay Loam	Clay Loam	Uniform Soil Classificatin
pH	7.00	6.85	6.95	6.89	6.89	6.75	7.39	@25°C, pH units
EC(conductivity)	.60	.66	.43	.58	520	.70	.53	µmhos/cm
SAR(sodium absorption ratio)	.17	.11	.17	.19	.24	.44	.41	
Percent Organic Matter	4.52	3.32	3.32	2.34	1.71	2.47	7.39	Total Volatile Solids as % of total sample
CEC (Cation exchange capacity)	53.57	26.43	25.96	26.52	27.39	20.91	35.48	Meq/100g-dry
Total Nitrogen	2374.46	1954.81	3159.97	1481.35	175.70	1947.63	1144.19	ppm
Nitrate Nitrogen	3.36	2.52	2.55	1.68	7.35	2.22	2.95	ppm
Total Phosphorus (as P)	5.29	3.59	3.36	2.29	2.62	4.40	4.23	ppm
Potassium (as K_2O)	163.2	112	48	256	250.18	102.4	60.80	ppm

The depth of the topsoil is approximately 6" and the texture of all soil samples were consistent from top to bottom. Below this (at about 10-inches) the soil became significantly more chalk colored and clayey in texture. Samples #1,2,3,7 were taken from the area mapped as DJE-Avintaquin-Floak-Pendant complex, 8 to 15 percent slopes. Sample #4,5,6 was taken from the area mapped as DLC-Osote-Emmapark association, 3-15 percent slopes, gullied. For comparison purposes the typical profile of the area soils is shown below (shown in **Table 3** & **Table 3b** below).

Table 3: Soil Description for DJE-Avintaquin-Floak-Pendant complex, 8 to 15 percent slopes

Depth in inches	Texture	Use
0-7	Extremely Channery Loam	Save for topsoil
7-17	Extremely Channery Clay	Store as Overburden
17-29	Extremely Channery Clay	Store as Overburden
29-33	Bedrock	Use for Product

Table 3b: Soil Description for DLC-Osote-Emmapark association, 3-15 percent slopes, gullied

Depth in inches	Texture	Use
0-8	Clay Loam	Save for topsoil
8-15	Silty Clay Loam	Store as Overburden
15-31	Silty Clay Loam	Store as Overburden
19-31	Silty Clay Loam	Store as Overburden
31-49	Silty Clay Loam	Store as Overburden
49-62	Silty Clay Loam	Store as Overburden

The DJE soils occur between 7,050 to 7,900 feet elevation. Mean annual precipitation is 16-18 inches. The soil map unit is generally 55% Avintaquin and similar soils and 20% Floak and similar soils, 20% Pendant and similar soils and 5% minor components. The soil is made up of residium weathered from limestone and/or slope alluvium derived from limestone. Lithic contact occurs at about 20 to 39 inches. Soils tend to be well drained, and slightly saline (about 5 mmhos/cm). Soils may have up to 60 percent calcium carbonate. Potential vegetation includes Utah serviceberry, bitterbrush, bluebunch wheatgrass, bluegrass, mountain big sagebrush, phlox, prairie Junegrass, rabbitbrush, saline wildrye, snowberry, werstern wheatgrass.

The DLC soils occur between 7,100 – 8,000 feet elevation. Mean annual precipitation is 15 to 18 inches. The soil map unit is generally 60% Osote and similar soils, 20% Emmapark and similar soils, 20% minor components. The soil is made up of alluvium derived from sandstone and shale. Depth class is very deep. Soils tend to be well drained, and may be slightly saline (about 4 mmhos/cm). Soils may have up to 30 percent calcium carbonate. Potential vegetation includes basin big sagebrush, blue wildrye, mountain big sagebrush, phlox, prairie Junegrass, rabbitbrush, snowberry, western wheatgrass.

106.6. Plans for protecting and re-depositing soils

It is estimated that 30 acres of mining disturbance will occur in the next 5 years. At a 6 inch salvage depth, approximately 24,200 cubic yard of topsoil will be salvaged from this area. Depending on the location of the excavation each year (i.e. south facing or east and west facing slopes), actual soil salvage by year may be more or less than that stated above. All stockpiles will be surrounded by a berm to protect against soil loss.

Topsoil and vegetation (made up mostly of grasses, and brush) will be removed together with bulldozers, front-end loaders, and 14-ton to 25-ton dump trucks. Vegetation at the mine site will add negligible volume to soil stockpiles. Over the life of the mine, approximately 27 acres of additional disturbance, and as much as 45,980 cubic yards (CY) of soil will be salvaged for reclamation.

Established topsoil stockpiles will be broadcast seeded with a mixture of native grasses to maintain slope stability and to protect against erosion.

More detail on topsoil stripping and protection is included in Sub-section 109.3 below.

106.7 Existing Vegetative communities to establish re-vegetation success

According to NRCS range data for the South Eastern Utah County (NRCs 2008), which includes the Study Area (See Figure 8, Soils), vegetation production on the mine acreage ranges from 1700lb/acre in a favorable year to 550 lb/acre in an unfavorable year. The designated ecological site name is Mountain Loam.

Potential plant species for the South Eastern Utah County area, based on NRCS data, are shown in Table 4 below

Table 4: NRCS Potential Plant Species for Avintaquin / Osote Soil Map Units

Common Name	Scientific Name
Blue Bunch Wheatgrass	*Pseudoroegneria spicata ssp. spicata*
Mountain Big Sagebrush	*Artemisia tridentate vaseyana*
Big Sagebrush	*Artemisia tridentata tridentata*
Blue Wildrye	*Elymus glaucus*
Phlox	*Linanthus Grandiflorus*
Prarie Junegrass	*Koleria cristata*
Rabbitbrush	*Chrysothamnus viscidiflorus*
Utah Service Berry	*Amelanchier utahensis*
Snowberry	*Symphorcarpos Albus*
Western Wheat Grass	*Pascopyrum smithii*
Saline Wildrye	*Leymus cinereus*
Bitterbrush	*Pershia Tridentata*

This list covers plant species found in Duchesne area, and parts of Utah and Wasatch Counties. There are very few trees located on the subject property and they are all Rocky Mountain Red Juniper. On Oct. 10,2008, Ron Kass, Ph.D., Botanist and Wetland Scientist, visited the site and observed the plant species growing at that time of year (see letter in Appendix B). Those plant species are shown in Table 4a.

A qualitative vegetative inventory was and conducted by Dr. Ronald J. Kass, botanist. He estimated live canopy cover of shrubs, forbs and grasses by species. The vegetation analysis was by ocular reconnaissance, walking throughout the project area and estimating cover by species. The following is a list of the most abundant species on site.

Table 4a: Plant Species observed by Dr.Ron Kass at mine site on Oct. 10, 2008

Common Name	*Scientific Name*	Form	% Percent Cover
Big sagebrush	*Artemisia tridentata*	Shrub	27
Snakeweed	*Xanthrocephalum sarothrae*	Shrub	10.0
Shadscale	*Atriplex confertifolia*	Shrub	3.0
Needle and thread	*Stipa comata*	Grass	2.0
Purple threeawn	*Arisitida purpureus*	Grass	2.0
Cheatgrass	*Bromus tectorum*	Shrub	1.0
Sulfur buckwheat	*Eriogonum umbellatum*		1.0
Pussy toes	*Antennaria microphylla*	Forb	0.75
Total Vegetative Cover			47.0

106.8. Depth to Groundwater, Overburden material, and Geologic Setting

Groundwater

Two water wells are located within a mile radius of the Woolsey Quarry. A copy of the Utah State Division of Water Rights well location map is attached as **Figure 7**, verifying the location of these existing wells. The closest well to the Woolsey Quarry is owned by Dennis Finch. It is located about 1,200 feet north of the northern perimeter of the Quarry and the head of his well

is at about the same elevation as mean elevation of the existing surface of the quarry. His well was drilled in 1995 to a depth of 310 feet. Static water level was encountered at 130 feet. This water level is at least 50 feet below the lowest planned level of mining in the Woolsey Quarry.

The other well located within the mile radius is one owned by Pacificorp. This well is situated on the opposite side of the White River, about 1/2mile due west of the Quarry. The well head is about 100 feet below the planned level of excavation of the quarry. Quarry operations will have virtually no effect on ground water flows in the area. Copies of the two water rights certificates and drill logs on the Finch well have been included in the correspondence section Appendix D.

Ground water has not been encountered by any of the drilling activities.

Overburden Material

The average depth from the surface to the limestone bedrock is about 2'- 8". 6" of that is topsoil so the depth of overburden averages about 2'-2". This overburden will be stripped with scrapers and placed in a stockpile northeast corner of the disturbed area. The overburden stockpile will be hand broadcast seeded with yellow sweet clover and native grasses to control erosion for the duration of the stockpile. It will be kept there until reclamation begins and then it will be replaced on the spent mine area and covered with topsoil. Replacement of overburden will possibly begin in phase 3 and continue through final reclamation. Much of it will be used to fillet the highwall areas which will help create a natural rolling hills appearance to the final contours. It is estimated that a total of 135,573 cubic yard of overburden will be stripped over the life of the quarry.

Geology of the area

The Geology underlying the alluvial sand and gravel formation is made up of Mississippian Lodgepole Limestone and Devonian Hyrum Dolomite. As shown in **Figure 9**, Paleocene surficial alluvium and colluviums, formed from alluvial outwash from the Uinta Mountains is exposed along the perimeter of the plateau area of the mine and in some places on top of the plateau. These deposits outcrop all along the White River and Price River where the rivers have worn their path down through the geologic layers. The primary layer of limestone varies from about 10 to 25 feet thick.

106.9. Location and sized of ore and wasted stockpiles, tailings and treatment ponds, and discharges

Waste/Overburden Stockpiles

Raw materials consist of limestone rock that has been removed from the hillside. Other than the top six inches of topsoil and an average of 2'-2" of overburden set aside for reclamation purposes, all rock material removed from the mine area is used to create aggregate products according to customer specifications. No waste rock is generated.

Material Stockpiles

There are several stockpiles of sorted and sized rock products stored on site. The general, current, and future locations of these stockpiles are shown on **Figure 4.** A list of stockpiles and maximum expected volume of each can be found in **Table 6** below.

Table 6: Stockpiles and Estimated Maximum Volumes for the Corinne Mine

Stockpile Material	Maximum Volume	Stockpile Material	Maximum Volume
Road Base (1"dia.)	50,000T	Pond Sand	15,000T
Fines (0.25" dia.)	30,000 T	Drain Rock (1.5" dia.)	5,000T
Sub-base (3" dia.)	15,000 T	Basket Rock (8" dia.)	5,000 T
Chip Rock (0.5" dia.)	30,000 T	Course Aggregate (3/4" dia.)	20,000T

Tailings

No Tailings will be produced at this mine.

Water Storage/Treatment Ponds

The staging and stockpile area of the mine has a catch basin and a perimeter berm that contains and channels any stormwater runoff coming off the staging area into the retentioin basin. The retention basin has adequate capacity to hold the runoff from a 100 year 24 hour event which is .98 acre feet of water (see figure 5A). Estimated runoff from areas within the actual quarry area during a 100 year 24-hour event is estimated to be 1.91 acre feet. The Quarry will have the capacity to contain that volume and much more. Water draining into the quarry portion of the disturbance will be contained within the disturbance by both the quarry depression and surrounding safety berms.

Discharges

No stormwater or process water will be discharged from the site. The storage capacity of the catch basin and the quarry retention bermed area is sufficient to contain a 100 year storm event.

R647-4-107. Operation Practices

As required, the relevant Operation Practices stipulated in R647-4-107 will be followed.

R647-4-108. Hole Plugging Requirements

There are no plans for future drilling within the permit area for exploration. If drilling for any reason other than blast hole drilling is planned in the area, Clyde will notify DOGM and the following procedures will be employed.

- Drill holes shall be properly plugged as soon as practical and shall not be left unplugged for more than 30 days without approval by DOGM.
- Dry holes and non-artesian holes that do not produce significant amounts of water may be temporarily plugged with a surface cap to enable Clyde to re-enter the hole for the duration of set operations.
- Surface plugging of drill holes outside the actual mine area shall be accomplished by setting a nonmetallic permaplug at a minimum of five (5) feet below the surface, or returning the cuttings to the hole and tamping the returned cuttings to within five (5) feet of ground level. The hole above the permaplug or cuttings will be filled with a cement plug. If cemented casing is to be left in place, a concrete surface plug may not be required as a permanent cap is secured on top of the casing.
- Drill holes that encounter water, oil, gas or other potential migratory substances and are 2.5 inches or greater in surface diameter will be plugged in the subsurface to prevent the migration of fluid from one stratum to another. If water is encountered, plugging shall be accomplished as outlined below.
- If artesian flow (i.e. water flowing to the surface from the hole) is encountered during or upon cessation of drilling, a cement plug will be placed to prevent water from flowing between geologic formations and at the surface. The cement mix will consist of API Class A or H cement, with additives as needed, and will weigh at least 13.5 lbs./gal. It will be placed under the supervision of a person qualified in proper drill hole cementing or artesian flow.
- Artesian bore holes will be plugged as described prior to removal of drilling equipment from the well site.
- If the surface owner of the land affected desire to convert an artesian drill hole into a producing and/or monitor well, the landowner will provide written notification to DOGM accepting responsibility for the ultimate plugging of the drill hole.

- Holes that encounter significant amounts of non-artesian water shall be plugged by: 1) placing a 50-ft cement plug immediately above and below the aquifer(s) or filling from the bottom up (through the drill casing) with a high grade bentonite/water slurry mixture. The slurry shall have a Marsh Funnel viscosity of at least 50 seconds per quart prior to the adding of any cuttings.

R647-4-109. Impact Statement

109.1. Surface and ground water systems

Surface Water

No perennial streams or intermittent waters have been or are expected to be impacted by mining operations at the Woolsey Quarry. Any precipitation and/or run-off into the quarry from sheet flow, which enters the quarry from the hillside above will be contained within the quarry and be collected along the quarry face. Any runoff intercepting quarry access roads to the north of the quarry, flows down these roads via ditches and into the quarry. Because this feature is so short and has no defined channels, a generalized run-off calculation was developed for the active mine, and is summarized below:

Precipitation = .875 inches

Design Event = 100-year, 24-hour (NOAA Atlas 14)

Runoff Coefficient = .75 Mountain Terrain

Drainage area = 57 acres

Total volume of run-off = 2.89 acre feet divided between the two pond areas as shown on figure 5A

Once inside the quarry, water disperses across the flat quarry floor. Areas used for stockpiles, crushers and processing facilities are graded to be higher than surrounding areas to prevent contamination of stormwater within the quarry. In addition, the working platform that make up the quarry floor area (see Figure 5A) are bermed to meet MSHA regulations, and thus act as a containment area where runoff remains until it soaks into the ground or evaporates. This approximately 35 acre area, has the capacity to contain much more water than would ever accumulate in a 100 year storm.

Surface water flowing off slopes north and east of the active quarry area, drain away from disturbed lands.

Precipitation runoff intercepted by the main quarry access road from Highway 6 is diverted into roadside ditches until it flows into the quarry area containment pond. If erosion or sedimentation is observed on lands where turn-outs are located, Clyde commits to using appropriate water and erosion control measures. This includes, but is not limited to: dirtberms, small (<0.1 acre-foot) sediment retention sumps, and rock check dams see **Figure 5B** .

Ground water

The elevation of ground water is estimated to be at about 7160 ft., or about the elevation of the confluence of the White River and the Price River. The quarry floor elevation will be about 7305' in elevation, so there about 147 feet of vertical separation between quarrying activities and the ground water aquifers as shown on **Figure 4**. No ground water has been encountered during current exploration activities.

The major activities on the mine property that could impact groundwater if residues were to reach this resource are: 1) blasting (will occur 20-30 times per year); 2) presence of diesel fuel, lubricants, etc. used in the heavy equipment used at the mine, 2) presence of additives used in the concrete batch plant, and 4) human wastes, which are processed through chemical toilets, which are serviced regularly. In summary:

- Good housekeeping practices and careful operating procedures are used to minimize fuel and lubricant spills. Fuel and lubricants are stored in tanks that have secondary containment that protect against spills.
- Crushing equipment and vehicles are regularly maintained to prevent lubricant leaks and other malfunctions.
- The quantities of blasting materials used create negligible quantities of nitrates that, in the unlikely event that they reached the groundwater, would be well below water quality limits.

109.2. Wildlife habitat and endangered species

The permit area ranges from approximately 7380 feet in elevation on the South knoll to 4,340 feet in elevation along the swale that extends east and west through the mine area. The quarry is being excavated into a foothills outcropping of the Reservation Ridge along the south slope of the Uintah Mountains.

Maps in the Utah Conservation Database (UCD), located at http://dwrcdc.nr.utah.gov/ucdc/ , indicate the permit area contains year-long habitat for mule deer, prong horn, elk, and moose.

The UCD website lists seven Threatened or Endangered (T&E) species that are present in Utah County and 35 Species of Special Concern (SPC) that could be found within the boundaries of the Colton area, including the Woolsey Quarry. The T&E species are listed below in Table 7, none of the SPC species listed are found with the permit area.

Table 7: Utah County Federal Threatened and Endangered Species

Common Name	Scientific Name	Status*	Habitate present at Woolsey Quarry
Ute Ladies' - Tresses	Spiranthes diluvialis	T	No – too dry
Deseret Milkvetch	Astragalus desereticus	T	No – too dry
Clay Phacelia	Pacelia argillacea	E	
Utah Valvata Snail	Valvata utahensis	E Extirpated	No - extirpated
June Sucker	Chasmistes Liorus	E	No too high
Yellow-billed Cuckoo	Coccyzus americanus	C	No too high
Brown (Grizzly) Bear	Ursus arctos	T-Extirpated	No - extirpated

*T=Threatened, E+ Endangered, SPC = Species of Concern

A well known Utah biologist, Ron Kass was contacted and requested to study the area to see if any T&E or SPC species are found on the permit area. On October 10, 2008 Ron conducted a inventory of the area and found no T&E species or habitat conducive for T& E species. In addition, he did not observe any indication of white-tailed prairie dogs or suitable habitat for the sage grouse which are Utah Species of Special Concern. A copy of his letter verifying that inventory is attached in the correspondence section as (Appendix D).

109.3 Existing Soil and Plant Resources

After 5 years of mining, approximately 24,200 CY of soil will be stored from the mining operation for reclamation. A total volume of approximately 45,980 CY of soil will be available for reclamation once the mine is fully developed as shown in **Figure 4A**.

All topsoil piles will have 1.5H:1V slopes and a flat to slightly arched top. A 1-foot high X 3-foot wide berm with interior ditch will be constructed around each topsoil stockpile area using material bucked up from the land surface where the topsoil pile is located. The ditch will catch and retain any soil that sloughs off the stockpile, and the berm will prevent contamination and erosion from storm water.

One topsoil stockpile will be constructed in the mining area during years 1-5. It will be located just south and parallel to US-6 on the east side of the pit entrance at an elevation of about 7355'.

By the end of the 40th year the east topsoil pile will measure approximately 400 feet X 310 feet and will be up to 10 feet high, containing approximately 45,980 cubic yards of soil.

Substitute topsoil material may be developed to augment the minimal topsoil resources available. This substitute material would include a mix of natural or crushed fines, small rock, and pit run material; imported manure and/or organic matter (i.e. agricultural field refuse, wood chips, bran or wheat chaff); and fertilizer to enhance fiber breakdown. This material would be stored and spread separately from actual topsoil resources.

The newly stockpiled soil will be seeded in the fall of each year it has been enlarged with a quick-growing cover of grass and legumes in order to minimize erosion. This seed mix, listed in Table 8, will be broadcast at a rate of 14.5 lbs./acre PLS (pure live seed).

Table 8: Seed Mix for Topsoil Stockpiles

Seed Species		PLS* Pounds Per Acre
Scientific Name	Common Name	
Elytrigia intermedia	Intermediate Wheatgrass	2.5
Psuedoroegneria spicata	Bluebunch Wheatgrass	2.5
Achantherum hymenoides	Indian Rice Grass	2.00
Elymus elymoides	Bottlebrush Squirreltail	1.50
Poa sandbergii	Sandberg Bluegrass	1.50
Medicago sativa	Alfalfa	0.75
Agropyron cristatum	Crested Wheatgrass	2.5
Hedysarum boreale	Northern sweetvetch	1.25
	Total	**14.50**
*PLS = pure live seed		

The size of the area stripped in front of the mining and storage areas will be minimized to limit dust generation and the establishment of noxious weeds. At the same time, the stripped area will be large enough to allow equipment to operate on the stripped lands, and contain within the stripped area all fly-rock that could occur from blasting. Please see subsections 106.5 and 106.6 for more information about topsoil.

All areas disturbed by Clyde (the bonded area) will be reclaimed at the end of mining by regarding (ripping compacted surfaces where necessary), topsoiling, and re-seeding as described in Section 110, with the goal of creating a self-renewing, perennial vegetation cover similar to native conditions.

109.4. Slope stability, Erosion Control, Air Quality, Public Health and Safety

Slope Stability

The rock at the Woolsey Quarry is massive limestone rock of Paleocene Flagstaff Limestone formation. During mining, all active high walls will be maintained at 20-foot maximum height. The overall slope of these high walls will be 1H:1V. Clyde inspects all high walls two times per month. A more extensive high wall inspection is conducted yearly with the MSHA inspector.

Please refer to R647-4-110.2, Reclamation Plan – High walls, for further information on slope stability during reclamation.

Erosion Control

There are no defined water channels within the existing disturbance area, or in area planned for future disturbance. However, the hillside being mined does shed water into the quarry area during precipitation events. Operations will be conducted to control water and erosion in disturbed, bonded areas. The quarry floor (See F9igures 3 and 4) is surrounded by an MSHA safety berm that can contain far more than 10 acre-feet of water (calculations indicate that the 100-year, 24 –hour event would cause 1.91 acre-feet of water to be captured by the quarry). The quarry floor and retention basin capacity is large enough to contain all stormwater. The quarry floor itself is graded to keep stormwater away from material stockpiles, facilities areas, and storage areas.

Air Quality

Clyde has an Air Quality permit through the State of Utah, Department of Environmental Qyuality, Division of Air Quality (DAQ). This permit is described as follows: DAQP-005-06; DAQ ID 10843; Site ID-AFS 4900101; SIC Code 1442; Regulated as NSPS and Potential PM10 SIP Source

Public Health and Safety

Clyde will minimize the hazards for public safety and welfare during operations. These measures include:

- No mining shafts or tunnels exist on the site. All buildings, silos, conveyors, and other facilities and equipment are signed to discourage unauthorized or accidental entry in accordance with MSHA regulations.
- A gate at the single access road on the north end of the quarry is locked when the site is not operating. All sides of the permit area are fenced to prevent unauthorized entry into the permit area during both operating and non-operating hours.

- Trash, scrap metal and wood, and extraneous debris is disposed of in marked containers that are picked up monthly and disposed of at the East Carbon Landfill in Carbon County.
- Although none are planned, any exploratory or other drill holes will be plugged and/or capping of as set forth in Rule R647-4-108.
- Appropriate warning signs are located at public access points, and every 300 feet along the south boundary.
- All deleterious or potentially deleterious material, such as fuel tanks and supplies of lubricants and oils, are kept in secondary containment that has 110% of the capacity of the tanksto minimize and control adverse environmental effects.
- Used lubricating and hydraulic oils are collected in designated tanks and drums and Held for collection by used oil distributors who process it into burner fuels.

R647-4-110. Reclamation Plan

110.1. Current Land Use and Post-Mining Land Use

Current land use of the property at and near the Woolsey Quarry includes mining of rock products and grazing of domestic live stock. Historical use of the property was grazing with the addition of some dispersed recreation.

The post-mining land use will remain consistent with historical use. The operator will reclaim the mine site area to a condition that is capable of supporting this land use. All buildings and structures will be removed, all roads will be reclaimed except a two-track road to access and monitor the sloped high wall, quarry floor and processing area during reclamation.

Although this plan addresses mining activities for the next ten years, mining is probable for the next 40 years. Buildings and mine infrastructure will remain past the ten year period until all future mining is completed. However, the current bond amount reflects sufficient funds to have all structures dismantled and removed along with regarding and reseeding the entire potential disturbed area. If an agency or landowner later requests some for the structures and roads to remain after reclamation of the remainder of the mines, an amendment to the NOI and a change to the post-mining land use will be provided to DOGM for approval.

110.2. Reclamation of Roads, Highwalls, Slopes, Leach Pads, Dumps, Etc.

Roads

Approximately .4 miles of roads have been constructed on the south slope of the pit. All roads will be reclaimed at the end of mining activities except for the roughly .5 acres of two-tracks needed to monitor the quarry floor, filled high wall, and process area. The cost to bring these roads back to a two-track status is included in the surety calculations. Reclamation of roads will include ripping to remove compaction. Roads on flat or gently sloping ground will be graded to blend the road crown and ditches with surroundings. Roads cut into the quarry slopes will be ripped and graded to drain toward the cut side to minimize erosion and encourage vegetation establishment.

Roads will be topsoiled if materials are available (see Sub-section 110.5 for more information) using dump trucks to transport soil and dozers to spread soil. All roads will be seeded with the standard seed mix outlined in 110.5

The total area of roads to remain within the reclaimed quarry (assuming a 10' road path) will be approximately .5 acres. Figure 5 shows the approximate path of roads to be left in reclamation.

Highwalls

Mining is proposed to continue for 40 years at this site. A drainage ditch on the north and east side of the highwall will be left intact. Highwalls will be left at a 3H:1V angle or less. (see **Figure 6**)

If mining were to cease prior to fully excavating the quarry, those highwall(s) disturbed by Clyde would be left at a 3H:1V or flatter to assure slope stability, and the quarry floor would be graded to drain at a 1 percent slope toward the highwall.

No significant areas are available for concurrent reclamation.

Slopes

The quarry floor will be mined down to approximately 7,305 feet elevation..

All slopes and floors within the disturbed, bonded area will be ripped on the contour to relieve compaction and create a better seed bed (this is discussed further in Sub-section 110.5 below). The quarry floor will be graded to a 1 percent slope, draining toward the previous highwall area shown on Figures 5 and 5a.

Impoundments, Pits, and Ponds

The quarry will not be backfilled except for the replacement of overburden material on the floor of the quarry. The quarry will be reclaimed with 3H:1V minimum slope and no highwalls

exposed and the floor will be reclaimed with a 1 percent slope to contain water within the quarry boundary, where water will infiltrate into two separate sumps and percolate into the bedrock and/or evaporate. No impoundments or ponds will be left that require maintenance or monitoring.

The detention pond constructed along the western rim will be backfilled upon reclamation using overburden materials salvaged over the life of the quarry. This will be done as part of grading operations in this area. The reclaimed detention pond will be topsoiled and revegetated in the same manner as the rest of the mine area, as explained under Subsection 110.5 below.

Drainages

No drainages will be constructed. The native land outside the perimeter of the quarry and batch plant area is on gravelly, vegetated outwash plain and is subject to overland flow rather than channelized flow.

Dumps, Shafts, Adits, and Leach Pads

There will be no dumps, shafts, adits, or leach pads created during mining, thus none of these features will need to be reclaimed. The slope between the quarry floor and batch plant area will be graded with a slope that is 3H:1V or flatter to minimize erosion and will be seeded as explained in 110.5 below.

Drill Holes

No drill holes outside of those required for blasting are anticipated. If any drill holes are required, they will be plugged and sealed as described in R647-4-108 above. There will be no drill holes left open upon reclamation.

110.3. Surface Facilities to be Left

No structures will be left. All facilities will be reclaimed. Approximately .5 acres of two-track roads will be maintained in reclamation to allow access and monitoring of the reclaimed mine.

A list of structures to be reclaimed is included in Table 9 below.

Table 9: Surface Facilities to be Reclaimed

Structure	Dimensions
Jaw Crusher	12' x 40' X 14 High – 110,000#
Primary Screen	10' x 30' x 12 High – 50,000#
Cone Crusher w/ 3 Deck Screen	12' x 40'x 12' High – 110,000#
Vertical Shaft Impact Crusher	12' x 40' x 12' High – 80,000#

Surge Bin Feeder	12' x 40' x 10' High – 40,000#
3 Deck 7X20 Horizontal Screen Deck	12' x 40' x 12' High – 40,000#
3 Deck 7X20 Horizontal Screen Deck	12' x 40' x 12' High – 40,000#
2 Deck 5X16 Fine Screening Deck	12' x 30 x 12' High – 30,000#
Radial Stacking Conveyors	2 conveyors with 36" Belts and 100' long
Stackable Lattice Conveyors	15 conveyors with 30" Belts and 70' Long
Scale House	35' x 40' x 10' with basement
Truck Scales	10' x 110' – 25,000 #
Hydrocarbon Storage	**Listed Below:**
Propane Tank	500 gal
Fuel Tanks	1- 10,000 Gal on-road tank
	1-12,000 gal off-road tank
	1-500 gal gas tank
Oil Drums	25 drums in Conex Storage Container
Asphalt Plant	150' x 200' x 75' High

Total acreage for buildings, structures, pads, and access roads at the site is 4 acres. All facilities will be demolished after salvaging metals and removing insulation, tile, etc. Concrete will be broken up and buried on site. Other materials will be hauled to a licensed landfill and disposed.

110.4. Treatment, location, and Disposition of Deleterious Material

Potentially hazardous insulation, tile, and non-salvageable debris from demolition will be removed to a licensed landfill. All tanks will either be removed to a licensed landfill upon reclamation or sold. The surety calculations contained in Section 113 assume these items are disposed of at the East Carbon Landfill located about 47 miles south east of the Woolsey Quarry.

All conveyors, crushers, screens, concrete plant, asphalt plant and other equipment used for mining and processing of aggregate will be removed upon reclamation or sold. The surety calculations contained in Section 113 assume these items are disposed of at the Box Elder County Landfill or Western Metal Recycling in Provo, Utah.

110.5. Revegetation Planting Program and Topsoil Re-distribution

After final shaping and grading of the quarry floor, asphalt plant area, slopes, and roads within the disturbed area, surfaces will be ripped and/or scarified on the contour to relieve compaction.

Soil Material Replacement

Topsoil and topsoil substitute material (described under Sub-section 109.3) will be spread on the quarry floor and asphalt plant area using scrapers to place soil, and dozers to spread soil. Topsoil will be spread to a depth of six inches. Marked lath will be used to guide dozer operators to the correct topsoil depth. There will be enough topsoil to cover the quarry floor and asphalt plant area and highwall area as necessary.

Seed Bed Preparation

Prior to spreading any topsoil or topdressing, stockpiles will be tested for organic matter, Nitrogen, Phosphorus, and Potassium. If these levels are low, composted manure will be applied to the solid or topsoil substitute after it is spread.

Topsoil will be laid down with a scraper, and if needed, composted manure at 10 ton/acre will be spread. All surfaces will be scarified with a road grader to a depth of 12" on the contour to assure mixing of the soil and manure, and to create consistent-textured soil.

Seed Mixture

Table 10 below provides the seed mixture that will be used in reclamation on all bonded, disturbed areas at Woolsey Quarry. Drill and broadcast seeding rates would be the same.

Table 10: Reclamation Seed Mix for Woolsey Quarry

Common Name	Scientific Name	PLS Pounds/Acre
Slender wheatgrass	*Agropyron trachycaulum*	1.5
Thickspike wheatgrass	*Agropyron dasystachum*	1.5
Mountain brome	*Bromus marginatus*	1.5
Piute orchard grass	*Dactylis glomerata*	.5
Great basin wildrye	*Elymus cinereus*	1.5
Ladak alfalfa	*Medicago sativa 'ladak'*	1.0
Yellow sweetclover	Melilotus officinalis	.5
Small Burnet	Sanguisorba minor	1.5
Mountain penstemon	Penstemon strictus	.5
Mountain big sagebrush	Artemisia tridentate vaseyana	.1

Rubber rabbitbrush	Chrysothamnus nauseosus	.25
Serviceberry	Amelanchier alnifolia	1.0
Blue elderberry	Sambucus caerulea	1.0
Bitterbrush	Purshia Tridentata	1.0
	Total Rate to be Seeded	**13.35**

Seeding Method

The quarry floor, asphalt plant area, roads on flat or gently sloping surfaces, and the scale house area will be seeded using a range-type drill seeder.

Fertilization

Prior to spreading any topsoil or topdressing, stockpiles will be tested for organic matter, Nitrogen, Phosphorus, and Potassium. If these levels are low, 10 tons of composted manure per acre will be applied to the soil or topsoil substitute after it is spread. Soil amendment quantities will be approved by DOGM prior to application.

Other Revegetation Procedures

None.

R647-4-112 Variance

No variances are requested.

R647-4-113 Surety

The reclamation surety calculations are contained in Appendix F. A summary of the estimated costs of reclamation are included below.

1. Subtotal Demolition and Removal $75,662.00
2. Subtotal Backfilling and Grading $401,004.00
3. Subtotal Revegetation $71,000.00

4. Direct Costs	$547,666.00
5. Mob/Demob	$54,767.00
6. Contingency	$27,383.00
7. Engineering Redesign	$13,692.00
8. Main Office Expense	$37,241.00
9. Project Management Fee	$13,692.00
10. Subtotal Direct Costs	$146,755.00
11. Total Cost 2009	$694,441.00
12. Escalation	$16,365.00
13. Reclamation Cost Escalated	$710,806.00
14. Bond Amount for 57 Acres(rounded to nearest $1,000) 2014 Dollars	$711,000.00

References

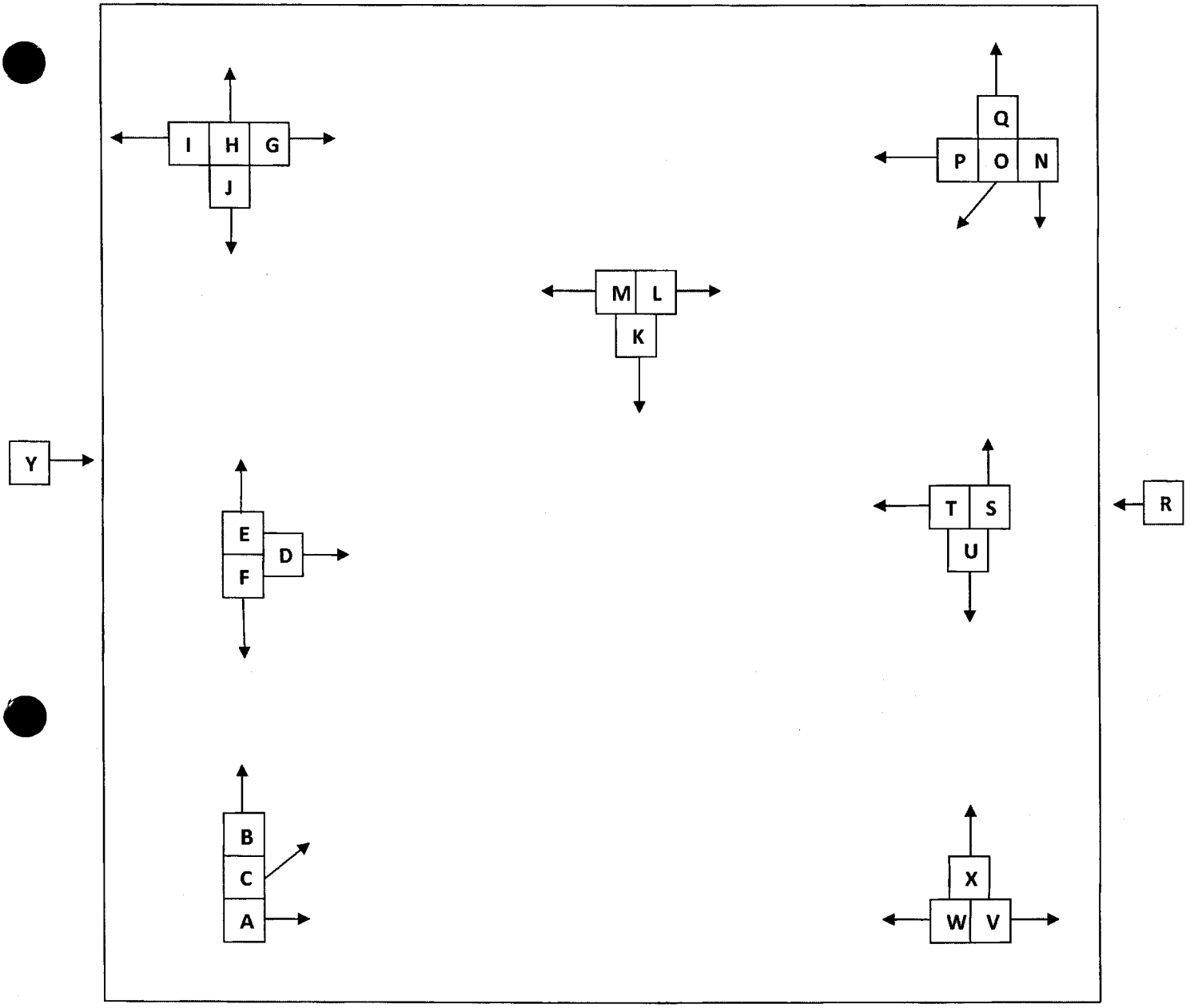
Natural Resources Conservation Service (NRCS 2008) Web Soil Survey: Eastern Box Elder County Area, Utah. Available online at: http://websoilsurvey.nrcs.usda.gov/ Accessed Oct. 2008.

Utah Conservation Data Center, 2007. Sensitive Species List by County. Available online at: Http://dwrcds.nr.utah.gov/ucdc/ViewReports/sscounty.htm Accessed Oct. 2008.

Utah Division of Water Rights, 2007. Water Right Record Information. Available online at: http://www.waterrights.utah.gov/wrinfo/query.asp Accessed October 2008

Appendix A
Photos of Area

Woolsey Property Schematic



Please note the following regarding the vegetation survey photos:

- All photos were taken November 3, 2008.
- Photo orientation is noted in parentheses ().
- General photo location and orientation are shown on the schematic above (Not to Scale)
- The picture lettering coincides with the schematic lettering above.
- Picture Y is a panoramic photo of the property from the east.

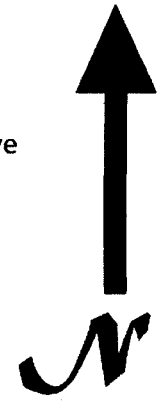


Photo A (Looking East)

Photo B (Looking North)

Photo C (Looking NorthEast)

Photo D (Looking East)

Photo E (Looking North)

Photo F (Looking South)

Photo G (Looking East)

Photo H (Looking North)

Photo I (Looking West)

Photo J (Looking South)

Photo K (Looking South)

Photo L (Looking East)

Photo M (Looking West)

Photo N (Looking South)

Photo O (Looking SouthWest)

Photo P (Looking West)

Photo Q (Looking North)

Photo R (Looking West)

Photo S (Looking North)

Photo T (Looking West)

Photo U (Looking South)

Photo V (Looking East)

Photo W (Looking West)

Photo X (Looking North)

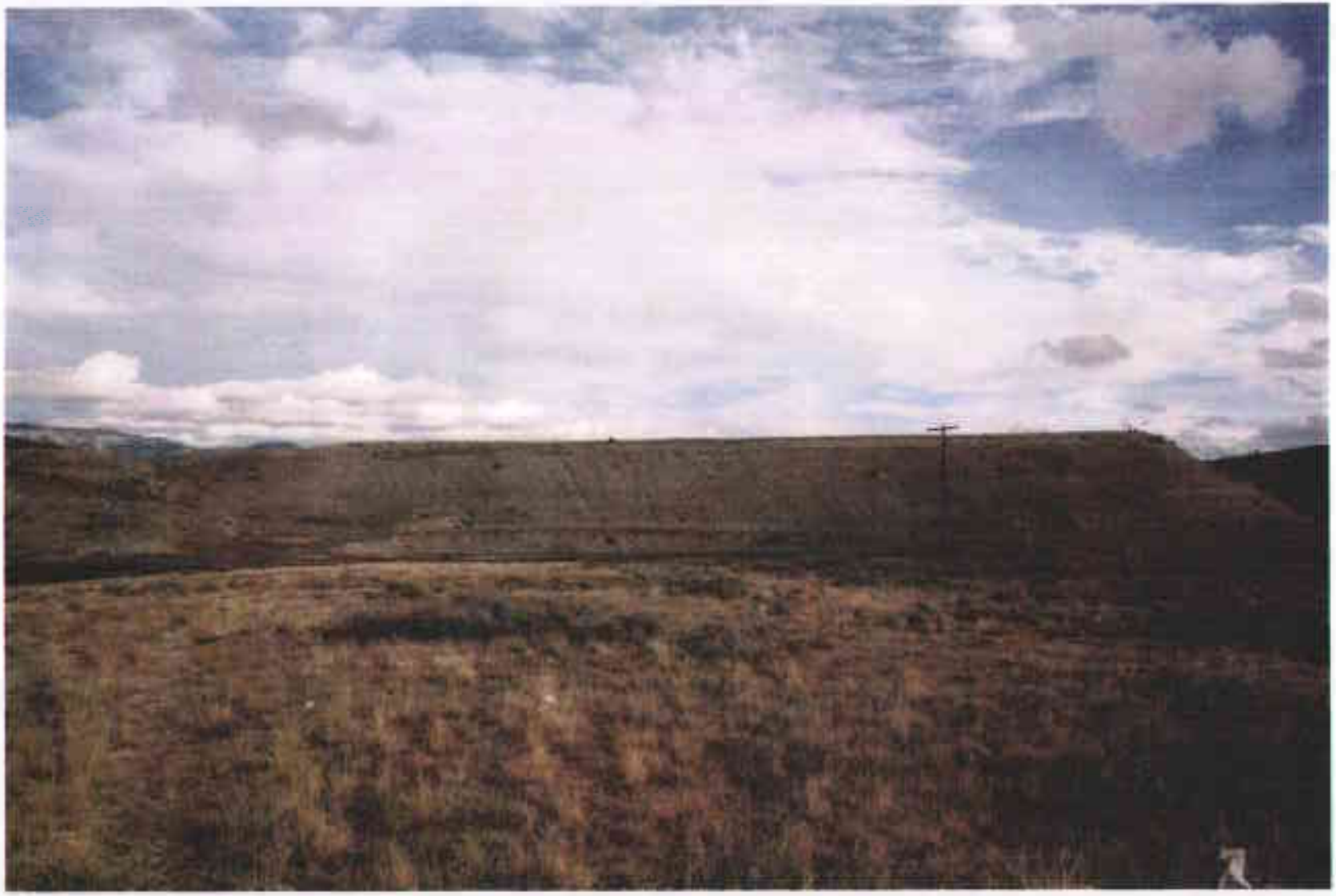


Photo Y Panoramic View (Looking East)
From Lower Valley Floor West of Property

WOOLSEY DOGM PERMIT APPLICATION
TOPSOIL SAMPLES (PHOTO LOGS)

TOPSOIL SAMPLE # 1

	WOOLSEY QUARRY TOPSOIL SAMPLES			W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY
	TS-1 SAMPLE				

WOOLSEY DOGM PERMIT APPLICATION
TOPSOIL SAMPLES (PHOTO LOGS)

TOPSOIL SAMPLE # 2

TITLE: WOOLSEY QUARRY TOPSOIL SAMPLES	Engineer			W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	W.W.CLYDE
15-2 SAMPLE					

WOOLSEY DOGM PERMIT APPLICATION
TOPSOIL SAMPLES (PHOTO LOGS)

TOPSOIL SAMPLE # 3

	WOOLSEY QUARRY TOPSOIL SAMPLES			W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY 1375 N MAIN STREET SPRINGVILLE, UT 801-802-6800
	TS-3 SAMPLE				

WOOLSEY DOGM PERMIT APPLICATION
TOPSOIL SAMPLES (PHOTO LOGS)

TOPSOIL SAMPLE # 4

WOOLSEY QUARRY TOPSOIL SAMPLES TS-4 SAMPLE		W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	W.W.CLYDE

WOOLSEY DOGM PERMIT APPLICATION
TOPSOIL SAMPLES (PHOTO LOGS)

TOPSOIL SAMPLE # 5

	WOOLSEY QUARRY TOPSOIL SAMPLES TS-5 SAMPLE			W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY 1375 N MAIN STREET SPRINGVILLE, UT 801-802-6600

WOOLSEY DOGM PERMIT APPLICATION
TOPSOIL SAMPLES (PHOTO LOGS)

TOPSOIL SAMPLE # 6

WOOLSEY QUARRY TOPSOIL SAMPLES			W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY 1976 N Main Street Springville, UT 801-489-6300
TS-6 SAMPLE				

WOOLSEY DOGM PERMIT APPLICATION
TOPSOIL SAMPLES (PHOTO LOGS)

TOPSOIL SAMPLE # 7

TITLE: WOOLSEY QUARRY TOPSOIL SAMPLES T5-7 SAMPLE				W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE A COMPANY 1575 N MAIN STREET SPRINGVILLE, UT 801-802-6800

Appendix B
Vegetation Study

Intermountain Ecosystems, LLC.
270 east 1230 north
Springville, Ut. 84663

21 January 2009

Lance Greer
W.W. Clyde
1375 North Main Street
Springville, Utah 84663

RE: Woolsey Pit, Utah County—Ocular Estimate of Vegetation

Dear Mr. Greer:

On October 10, I inventoried approximately 300 acres for the occurrence of Jurisdictional Wetlands administered under the Clean Water Act and Threatened and Endangered Species administered under the Endangered Species Act. The parcel is approximately located at Latitude N 39 degrees 50.623 minutes and longitude W 111 degrees and 0.241 minutes near Colton, Utah.

In addition to the T&E and wetland inventory, I estimated live canopy cover of shrubs, forbs and grasses by species. The vegetation analysis was by ocular reconnaissance, walking throughout the project area and estimating cover by species. The inventory was qualitative and conducted by Dr. Ronald J. Kass, botanist. The following is a list of the most abundant species on site.

Common Name	Scientific Name	Plant Type	% Percent Cover
Big sagebrush	Artemisia tridentata	Shrub	27
Snakeweed	Xanthrocephalum sarothrae	Shrub	10.0
Shadscale	Atriplex confertifolia	Shrub	3.0
Needle and thread	Stipa comata	Grass	2.0
Purple threeawn	Arisitida purpureus	Grass	2.0
Cheatgrass	Bromus tectorum	Shrub	1.0
Sulfur buckwheat	Eriogonum umbellatum		1.0
Pussy toes	Antennaria microphylla	Forb	0.75
Total Vegetative Cover			47.0

Plant cover is slightly biased because of the late season lack of forb cover. There was some cryptobiotic crust but this was not estimated. Cattle were present in the surrounding areas and numerous small mammal activity was observed.

A telephone conversation with Lynn Kunzler of DOGM (January 20, 2009) indicated that a comprehensive vegetation and soil survey be conducted during the growing season in 2009 to quantitatively characterize the project area. The inventory will be conducted in June or July and submitted as a report to DOGM.

Sincerely;

Ronald J. Kass, Botanist

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
240 West Highway 40 (333-4)
Roosevelt, UT 84066

November 17, 2008

Subject: Prime Farmland Determination for the Woolsey Quarry in parts of section 23 and section 26 southeast of Colton, UT

Brent R. Sumsion
Clyde Companies, Inc.
P.O. Box 1955
730 North 1500 West
Orem, UT 84059

Dear Mr. Sumsion:

We have reviewed your request for Prime and Unique Farm Lands and Farmlands of Statewide Importance clearance for a proposed limestone quarry. I am enclosing a draft copy of the soil survey map for the area for your reference. I am also including map unit descriptions for the dominant soils in the area and a *Physical Properties Table and an Engineering Properties Table* for those map units. The values shown in the table are estimates and do remove the need or onsite investigation.

There appears to be two soil survey mapping units within the site of the proposed Woolsey Quarry:

- DJE – Avintaquin-Floak-Pendant complex, 8 to 15 percent slopes
- DLC – Osote-Emmapark association, 3 to 15 percent slopes, Gullied

These two soil survey mapping units do not meet the established criteria for prime farmland and lands designated as farmlands of statewide importance for one or more of the following reasons:

- 10 percent or more of the surface layer (upper 6 inches) in these soils consists of rock fragments coarser than 3 inches (7.6 cm); and/or
- The product of K (erodibility factor) x percent slope is greater than 2.0; and/or
- The soils do not have a sufficient available water capacity within a depth of 40 inches (1 meter), or in the root zone (root zone) in the part of the soil that is penetrated or can be penetrated by plant roots) and does not have an established irrigation system that is dependable and of adequate quality.

The soils in these two soil survey mapping units have not been designated as unique farmlands in Utah County.

I have requested our area range management specialist to work on a recommended reclamation seed mix. He is out of the office for a few days. He told me that he would work on the seed mix as soon as he returns to his office. I will forward to you that information as soon as I receive it.

The soils information is in DRAFT form at this time, and will not be readily available to the public for a two or three more years.

Robert H. Fish
Area Resource Soil Scientist

Enclosure

Cc: Wayne Greenhalgh, DC, NRCS, Price, UT


EMF
EMF
EMF
26
25
23
ESE
DSB
DLC
DSB
DJE
EMF
ESE
ESE
DRB
TPG
DJE
DKF
DRAFT
NOT TO SCALE

DJE—Avintaquin-Floak-Pendant complex, 8 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 47
Elevation: 7,050 to 7,900 feet (2,149 to 2,408 meters)
Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)
Mean annual air temperature: 39 to 45 degrees F. (3.9 to 7.0 degrees C.)
Frost-free period: 60 to 90 days

Map Unit Composition

Avintaquin and similar soils: 55 percent
Floak and similar soils: 20 percent
Pendant and similar soils: 20 percent
Minor components: 5 percent

Component Descriptions

Avintaquin soils
Landform: Mountain slopes
Position on landform: Footslopes
Position on landform: Mountainbase
Parent material: Residuum weathered from limestone and/or slope alluvium derived from limestone
Slope: 8 to 15 percent
Shape (down/across): Linear/convex
Surface fragments: About 5 percent flagstones, about 25 percent channers, about 3 percent stones, about 15 percent gravel
Depth class: Moderately deep
Depth to restrictive feature: 20 to 39 inches to bedrock, lithic
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 1.7 inches (very low)
Shrink-swell potential: About 1.5 percent (low)
Calcium carbonate maximum: About 60 percent
Gypsum maximum: None
Salinity maximum: About 5 mmhos/cm (slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Stony Loam (Browse)
Potential native vegetation: Utah serviceberry, bitterbrush, bluebunch wheatgrass, bluegrass, mountain big sagebrush, phlox, prairie Junegrass, rabbitbrush, saline wildrye, snowberry, western wheatgrass
Land capability subclass (nonirrigated): 7e

Typical Profile:
0 to 7 inches; extremely channery loam
7 to 17 inches; extremely channery clay loam
17 to 29 inches; extremely channery clay loam
29 to 33 inches; bedrock

Floak soils
Landform: Mountain slopes
Position on landform: Footslopes
Position on landform: Mountainbase
Parent material: Eolian deposits over slope alluvium derived from limestone over residuum weathered from limestone
Slope: 8 to 15 percent
Shape (down/across): Linear/concave
Surface fragments: About 3 percent angular channers, about 3 percent subrounded cobbles, about 10 percent subrounded gravel
Depth class: Moderately deep
Depth to restrictive feature: 20 to 39 inches to bedrock, lithic
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 3.8 inches (low)
Shrink-swell potential: About 2.4 percent (low)
Calcium carbonate maximum: About 50 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Loam (Oak)
Potential native vegetation: Gambel oak, Indian ricegrass, Oregongrape, Utah serviceberry, geranium, mountain big sagebrush, mountain brome, saline wildrye, snowberry, wheatgrass
Land capability subclass (nonirrigated): 4e

Typical Profile:
0 to 6 inches; gravelly loam
6 to 15 inches; silty clay loam
15 to 19 inches; very cobbly clay loam
19 to 34 inches; very cobbly loam
34 to 38 inches; bedrock

Pendant soils
Landform: Mountain slopes
Position on landform: Footslopes
Position on landform: Mountainbase
Parent material: Residuum weathered from limestone and/or slope alluvium derived from limestone
Slope: 8 to 15 percent
Shape (down/across): Convex/convex
Surface fragments: About 10 percent angular flagstones, about 20 percent angular

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 5.5 inches (low)
Shrink-swell potential: About 1.7 percent (low)
Calcium carbonate maximum: About 35 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Loam (Mountain Big Sagebrush)
Potential native vegetation: Indian ricegrass, Rocky Mountain juniper, blue wildrye, bluegrass, milkvetch, mountain big sagebrush, phlox, prairie Junegrass, rabbitbrush, serviceberry, slender wheatgrass, snowberry, wax currant, western wheatgrass
Land capability subclass (nonirrigated): 6e

Typical Profile:
0 to 2 inches; channery loam
2 to 7 inches; channery clay loam
7 to 19 inches; very channery clay loam
19 to 42 inches; very channery clay loam
42 to 54 inches; extremely channery clay loam
54 to 60 inches; extremely channery clay loam

Minor Components

Tycreek and similar soils
Composition: About 10 percent
Landform: Mountain slopes
Position on landform: Footslopes
Position on landform: Mountainbase
Slope: 3 to 15 percent
Shape (down/across): Linear/concave
Ecological site: Mountain Loam (Mountain Big Sagebrush)

Kyune and similar soils
Composition: About 5 percent
Landform: Mountain slopes
Position on landform: Footslopes
Slope: 10 to 20 percent
Shape (down/across): Convex/convex
Ecological site: Mountain loam (Salina wildrye)

Gremo and similar soils
Composition: About 2 percent
Landform: Mountain slopes
Slope: 15 to 40 percent
Shape (down/across): Convex/convex
Ecological site: Mountain loam (Salina wildrye)

Rock outcrop
Composition: About 1 percent

Brycan and similar soils
Composition: About 1 percent
Landform: Drainageways
Slope: 3 to 5 percent
Shape (down/across): Linear/concave
Flooding hazard: Very Rare
Ecological site: Mountain Loam (Mountain Big Sagebrush)

Cookcan and similar soils
Composition: About 1 percent
Landform: Flood plains
Slope: 1 to 2 percent
Shape (down/across): Linear/concave
Flooding hazard: Occasional
Ecological site: Wet Fresh Meadow (Sedge)

EMF—Gremo-Kyune-Rock outcrop association, 15 to 65 percent slopes

Map Unit Setting

Major Land Resource Area: 48A, 47
Elevation: 7,100 to 7,800 feet (2,164 to 2,377 meters)
Mean annual precipitation: 15 to 17 inches (381 to 432 millimeters)
Mean annual air temperature: 43 to 45 degrees F. (6.0 to 7.0 degrees C.)
Frost-free period: 70 to 100 days

Map Unit Composition

Gremo and similar soils: 50 percent
Rock outcrop: 15 percent
Kyune and similar soils: 15 percent
Minor components: 20 percent

Component Descriptions

Gremo soils
Landform: Hillslopes
Position on landform: Side slope
Parent material: Alluvium derived from sandstone and/or residuum weathered from sandstone
Slope: 15 to 65 percent
Shape (down/across): Convex/convex
Surface fragments: About 5 percent angular channers, about 2 percent subangular cobbles, about 12 percent subangular gravel
Depth class: Moderately deep
Depth to restrictive feature: 20 to 30 inches to bedrock, paralithic
Drainage class: Well drained

ESE—Kyune-Tycreek-Clyl complex, 5 to 25 percent slopes

Map Unit Setting

Major Land Resource Area: 47
Elevation: 7,000 to 7,500 feet (2,134 to 2,286 meters)
Mean annual precipitation: 15 to 19 inches (381 to 483 millimeters)
Mean annual air temperature: 41 to 43 degrees F. (5.0 to 6.1 degrees C.)
Frost-free period: 70 to 100 days

Map Unit Composition

Kyune and similar soils: 35 percent
Tycreek and similar soils: 30 percent
Clyl and similar soils: 20 percent
Minor components: 15 percent

Component Descriptions

Kyune soils
Landform: Hillslopes
Position on landform: Backslopes
Parent material: Slope alluvium derived from shale and siltstone over residuum weathered from shale and siltstone
Slope: 5 to 25 percent
Shape (down/across): Convex/convex
Surface fragments: About 1 percent angular flagstones, about 20 percent angular channers, about 5 percent subangular cobbles, about 15 percent subangular gravel
Depth class: Moderately deep
Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 3.7 inches (low)
Shrink-swell potential: About 1.5 percent (low)
Calcium carbonate maximum: About 28 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Loam (Mountain Big Sagebrush)
Potential native vegetation: Indian ricegrass, Utah serviceberry, blue grama, buckwheat, mountain big sagebrush, rabbitbrush, saline wildrye, slender wheatgrass, snowberry
Land capability subclass (nonirrigated): 6e

Typical Profile:
0 to 6 inches; channery loam
6 to 11 inches; channery loam
11 to 20 inches; channery loam
20 to 31 inches; paragravelly silty clay loam
31 to 35 inches; bedrock

Tycreek soils
Landform: Mountain slopes
Position on landform: Mountainbase
Parent material: Slope alluvium derived from shale and siltstone
Slope: 5 to 15 percent
Shape (down/across): Concave/concave
Surface fragments: About 10 percent subangular gravel, about 8 percent subangular cobbles, about 5 percent angular channers, about 1 percent angular flagstones
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 7.6 inches (moderate)
Shrink-swell potential: About 2.9 percent (low)
Calcium carbonate maximum: About 35 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Loam (Mountain Big Sagebrush)
Potential native vegetation: Indian ricegrass, Letterman's needlegrass, Rocky Mountain juniper, Utah juniper, Utah serviceberry, mountain big sagebrush
Land capability subclass (nonirrigated): 6e

Typical Profile:
0 to 9 inches; channery loam
9 to 15 inches; gravelly clay loam
15 to 23 inches; cobbly clay loam
23 to 34 inches; clay loam
34 to 42 inches; gravelly loam
42 to 65 inches; cobbly loam

Clyl soils
Landform: Terraces
Parent material: Alluvium derived from limestone, calcareous shale and sandstone
Slope: 5 to 20 percent
Shape (down/across): Linear/convex
Surface fragments: About 20 percent subangular gravel, about 15 percent subangular cobbles, about 5 percent subangular stones, about 1 percent angular flagstones
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 4.7 inches (low)

Rangeland Productivity **DRAFT** **DRAFT** **DRAFT**

(Only the soils that support rangeland vegetation suitable for grazing are rated.)

Duchesne Area, Utah, Parts of Duchesne, Utah and Wasatch Counties PRINT DATE 12/18/2008

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
DJE:				
Avintaquin	Mountain Stony Loam(browse)	1500	1300	800
Floak	Mountain Loam (oak)	1650	1100	550
Pendant	Mountain Shallow Loam (mountain Big Sagebrush)	1400	1100	750
Rock outcrop	---	---	---	---
Osote	Mountain Shallow Loam (mountain Big Sagebrush)	1400	1100	750
DLC:				
Osote	Mountain Loam (mountain Big Sagebrush)	1700	1300	900
Emmapark	Mountain Loam (mountain Big Sagebrush)	1700	1300	900
Tycreek	Mountain Loam (mountain Big Sagebrush)	1700	1300	900
Kyune	Mountain Loam (salina Wildrye)	1900	1400	900
Gremo	Mountain Loam (salina Wildrye)	1900	1400	900
Brycan	Mountain Loam (mountain Big Sagebrush)	1700	1300	900
Cookcan	Wet Fresh Meadow (sedge)	6400	4900	3400
Rock outcrop	---	---	---	---

Rangeland Productivity **DRAFT** **DRAFT** **DRAFT**

(Only the soils that support rangeland vegetation suitable for grazing are rated.)

Duchesne Area, Utah, Parts of Duchesne, Utah and Wasatch Counties PRINT DATE 12/18/2008

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
DJE:				
Avintaquin	Mountain Stony Loam(browse)	1500	1300	800
Floak	Mountain Loam (oak)	1650	1100	550
Pendant	Mountain Shallow Loam (mountain Big Sagebrush)	1400	1100	750
Rock outcrop	---	---	---	---
Osote	Mountain Shallow Loam (mountain Big Sagebrush)	1400	1100	750
DLC:				
Osote	Mountain Loam (mountain Big Sagebrush)	1700	1300	900
Emmapark	Mountain Loam (mountain Big Sagebrush)	1700	1300	900
Tycreek	Mountain Loam (mountain Big Sagebrush)	1700	1300	900
Kyune	Mountain Loam (salina Wildrye)	1900	1400	900
Gremo	Mountain Loam (salina Wildrye)	1900	1400	900
Brycan	Mountain Loam (mountain Big Sagebrush)	1700	1300	900
Cookcan	Wet Fresh Meadow (sedge)	6400	4900	3400
Rock outcrop	---	---	---	---

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Duchesne Area, Utah, Parts of Duchesne, Utah, and Wasatch Counties
Physical Soil Properties

Print date: 11/17/2008

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
DJE:														
Avintaquin----------	0-7	25-52	27-50	18-27	1.25-1.40	0.2-0.6	0.04-0.05	0.0-2.9	2.0-4.0	.05	.24	2	8	0
	7-17	20-45	15-53	27-35	1.25-1.40	0.2-0.6	0.05-0.06	0.0-2.9	1.0-3.0	.02	.20			
	17-29	20-45	15-53	27-35	1.25-1.40	0.2-0.6	0.05-0.06	0.0-2.9	0.5-1.0	.05	.24			
	29-33	---	---	---	---	0.00-0.6	---	---	---	---	---			
Floak----------	0-6	25-52	27-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	2.0-4.0	.15	.24	2	6	48
	6-15	0-20	40-73	27-35	1.15-1.30	0.2-0.6	0.16-0.19	2.9-5.9	1.0-3.0	.37	.37			
	15-19	20-45	15-53	27-35	1.25-1.40	0.2-0.6	0.09-0.11	0.0-2.9	1.0-2.0	.05	.20			
	19-34	25-52	15-53	18-27	1.25-1.40	0.6-2	0.07-0.09	0.0-2.9	0.5-1.0	.15	.37			
	34-38	---	---	---	---	0.00-0.6	---	---	---	---	---			
Pendant----------	0-1	0-50	50-87	18-27	1.15-1.30	0.6-2	0.04-0.06	0.0-2.9	2.0-4.0	.05	.32	1	6	48
	1-4	0-50	50-87	18-27	1.15-1.30	0.6-2	0.08-0.10	0.0-2.9	1.0-3.0	.15	.37			
	4-8	0-50	50-87	18-27	1.15-1.30	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.15	.43			
	8-12	---	---	---	---	0.00-0.6	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Osote----------	---	---	---	---	---	---	---	---	---	---	---	--	---	---
DLC:														
Osote----------	0-8	---	---	27-35	1.25-1.40	0.2-0.6	0.16-0.19	3.0-5.9	2.0-4.0	.17	.17	5	4L	86
	8-15	---	---	27-35	1.15-1.30	0.2-0.6	0.16-0.19	3.0-5.9	1.0-2.0	.28	.28			
	15-31	---	---	27-35	1.15-1.30	0.2-0.6	0.16-0.19	3.0-5.9	0.5-1.0	.32	.32			
	31-49	---	---	27-35	1.15-1.30	0.2-0.6	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
	49-62	---	---	27-35	1.15-1.30	0.2-0.6	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
Emmapark----------	0-2	---	---	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	2.0-4.0	.15	.24	2	4L	86
	2-7	---	---	27-35	1.25-1.40	0.2-0.6	0.13-0.16	3.0-5.9	1.0-3.0	.10	.20			
	7-19	---	---	27-35	1.25-1.40	0.2-0.6	0.09-0.11	0.0-2.9	1.0-2.0	.05	.20			
	19-42	---	---	27-35	1.25-1.40	0.2-0.6	0.09-0.11	0.0-2.9	1.0-2.0	.05	.20			
	42-54	---	---	27-35	1.25-1.40	0.2-0.6	0.05-0.07	0.0-2.9	0.5-1.0	.05	.24			
	54-60	---	---	27-35	1.25-1.40	0.2-0.6	0.05-0.07	0.0-2.9	0.0-0.5	.05	.28			
Tycreek----------	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Kyune----------	---	---	---	---	---	---	---	---	---	---	---	--	---	---

ESE:														
Kyune----------	0-6	23-52	27-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	2.0-4.0	.15	.24	3	4L	86
	6-11	23-52	27-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	1.0-3.0	.15	.28			
	11-20	23-52	27-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	1.0-2.0	.15	.28			
	20-31	0-20	40-73	27-35	1.15-1.30	0.2-0.6	0.13-0.16	0.0-2.9	0.5-1.0	.17	.28			
	31-35	---	---	---	---	0.00-0.06	---	---	---	---	---			
Tycreek----------	0-9	23-52	23-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	2.0-4.0	.15	.24	5	6	48
	9-15	20-50	15-53	27-35	1.25-1.40	0.2-0.6	0.13-0.16	2.9-5.9	1.0-3.0	.10	.20			
	15-23	20-50	15-53	27-35	1.25-1.40	0.2-0.6	0.13-0.16	2.9-5.9	1.0-2.0	.10	.20			
	23-34	20-50	15-53	27-35	1.25-1.40	0.2-0.6	0.16-0.19	2.9-5.9	1.0-2.0	.20	.20			
	34-42	23-52	23-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	0.5-1.0	.20	.37			
	42-65	23-52	23-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	0.5-1.0	.20	.37			

Physical Soil Properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
Clyl----------	0-4	43-85	0-50	0-18	1.35-1.50	2-6	0.07-0.08	0.0-2.9	2.0-4.0	.05	.20	3	8	0
	4-11	43-85	0-50	0-18	1.35-1.50	2-6	0.07-0.08	0.0-2.9	1.0-3.0	.10	.24			
	11-21	23-52	27-50	18-27	1.25-1.40	0.6-2	0.07-0.09	0.0-2.9	1.0-2.0	.10	.28			
	21-44	23-52	27-50	18-27	1.25-1.40	0.6-2	0.07-0.09	0.0-2.9	0.5-1.0	.15	.37			
	44-60	23-52	27-50	18-27	1.25-1.40	0.2-0.6	0.07-0.09	0.0-2.9	0.5-1.0	.15	.37			
Gremo----------	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Brycan----------	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Gravel pit----------	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Osote----------	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Rock outcrop--------	---	---	---	---	---	---	---	---	---	---	---	--	---	---

Duchesne Area, Utah, Parts of Duchesne, Utah, and Wasatch Counties
Engineering Properties

DRAFT

Print date: 11/17/2008

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
DJE:												
Avintaquin------	0-7	Extremely channery loam	GC, GC-GM, GP-GC, GW-GC	A-1-a, A-2-4, A-1-b	0-30	0-40	10-30	10-25	10-25	5-20	25-30	5-10
	7-17	Extremely channery clay loam	GW-GC, GP-GC, GC	A-2-6, A-2-4	0-30	0-40	10-30	10-25	10-25	5-20	30-35	10-15
	17-29	Extremely channery clay loam	GW-GC, GP-GC, GC-GM, GC	A-2-4, A-1-b, A-1-a	0-30	0-40	10-30	10-25	10-25	5-20	25-30	5-10
	29-33	Bedrock			---	---	---	---	---	---	---	---
Floak----------	0-6	Gravelly loam	CL-ML, CL, SC, SC-SM, GC, GC-GM	A-4	0-10	0-15	60-80	55-75	50-70	35-55	25-30	5-10
	6-15	Silty clay loam	ML	A-7-6, A-6, A-4	0-20	0-20	85-100	80-100	75-100	70-95	30-45	5-15
	15-19	Very cobbly clay loam	CL, SC, GC	A-6, A-2-6	0-25	20-70	45-90	40-85	35-85	30-70	30-35	10-15
	19-34	Very cobbly loam	CL-ML, CL, ML, SC, SC-SM, SM, GC, GC-GM, GM	A-4, A-2-4	0-25	20-70	45-90	40-85	35-85	25-65	20-30	NP-10
	34-38	Bedrock			---	---	---	---	---	---	---	---
Pendant---------	0-1	Extremely flaggy silt loam	ML, GM, GP-GM, GW-GM, SC	A-4, A-2-4, A-1-b, A-1-a	30-80	15-70	20-80	15-75	15-75	10-70	30-35	5-10
	1-4	Very flaggy silt loam	ML, SM, GM	A-4, A-2-4	25-60	10-50	45-90	40-85	35-85	30-75	30-35	5-10
	4-8	Very flaggy silt loam	ML, SM, GM	A-4, A-2-4	25-60	10-50	45-90	40-85	35-85	30-75	30-35	5-10
	8-12	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Osote----------	---	---	---	---	---	---	---	---	---	---	---	---
DLC:												
Osote----------	0-8	Clay loam	CL	A-6	0-10	0-10	85-100	80-100	75-100	60-80	30-35	10-15
	8-15	Silty clay loam	ML	A-7, A-6, A-4	0-10	0-10	85-100	80-100	75-100	70-95	30-45	5-15
	15-31	Silty clay loam	ML	A-7, A-6, A-4	0-10	0-10	85-100	80-100	75-100	70-95	30-45	5-15
	31-49	Silty clay loam	ML	A-4	0-10	0-10	85-100	80-100	75-100	70-95	30-35	5-10
	49-62	Silty clay loam	ML	A-4	0-10	0-10	85-100	80-100	75-100	70-95	30-35	5-10

Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Ustorthent------	---	---	---	---	---	---	---	---	---	---	---	---
Badland---------	---	---	---	---	---	---	---	---	---	---	---	---
Pathead---------	---	---	---	---	---	---	---	---	---	---	---	---
Podo------------	---	---	---	---	---	---	---	---	---	---	---	---
Tycreek---------	---	---	---	---	---	---	---	---	---	---	---	---
Talus-----------	---	---	---	---	---	---	---	---	---	---	---	---
ESE:												
Kyune-----------	0-6	Channery loam	GC, CL-ML, CL, SC, SC-SM, GC-GM	A-4	0-10	0-25	55-80	55-75	50-70	35-55	25-30	5-10
	6-11	Channery loam	GC-GM, GC, SC-SM, CL, CL-ML, SC	A-4	0-10	0-25	55-80	55-75	50-70	35-55	25-30	5-10
	11-20	Channery loam	GC, CL, CL-ML, SC, SC-SM, GC-GM	A-4	0-10	0-25	55-80	55-75	50-70	35-55	25-30	5-10
	20-31	Paragravelly silty clay loam	ML	A-7-6, A-6, A-4	0-10	0-25	60-80	55-75	55-75	50-70	30-45	5-15
	31-35	Bedrock			---	---	---	---	---	---	---	---
Tycreek---------	0-9	Channery loam	GC-GM, GC, SC-SM, SC, CL, CL-ML	A-4	0-10	0-25	55-80	55-75	50-70	35-55	25-30	5-10
	9-15	Gravelly clay loam	CL, GC, SC	A-6	0-10	0-15	60-80	55-75	50-75	40-60	30-35	10-15
	15-23	Cobbly clay loam	CL	A-6	0-10	15-45	75-90	70-85	65-85	50-70	30-35	10-15
	23-34	Clay loam	CL	A-6	0-20	0-20	85-100	80-100	75-100	60-80	30-35	10-15
	34-42	Gravelly loam	GC-GM, GC, SC-SM, SC, CL, CL-ML	A-4	0-10	0-15	60-80	55-75	50-70	35-55	25-30	5-10
	42-65	Cobbly loam	CL-ML, CL, SC, SC-SM	A-4	0-10	15-45	75-90	70-85	60-80	45-65	25-30	5-10

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 11/14/08
Name Of Project Woolsey Quarry	Federal Agency Involved
Proposed Land Use Limestone Quarry	County And State Utah County, Utah
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 11/14/08

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☐	No ☑	Acres Irrigated	Average Farm Size

Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount Of Farmland As Defined in FPPA Acres: %
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	0.0	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	0	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160	0	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	0	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side)

Form AD-1006 (10-83)

This form was electronically produced by National Production Services Staff

Site Assessment Scoring for the Twelve Factors Used In FPPA

The Site Assessment criteria used in the Farmland Protection Policy Act (FPPA) rule are designed to assess important factors other than the agricultural value of the land when determining which alternative sites should receive the highest level of protection from conversion to non agricultural uses.

Twelve factors are used for Site Assessment and ten factors for corridor-type sites. Each factor is listed in an outline form, without detailed definitions or guidelines to follow in the rating process. The purpose of this document is to expand the definitions of use of each of the twelve Site Assessment factors so that all persons can have a clear understanding as to what each factor is intended to evaluate and how points are assigned for given conditions.

In each of the 12 factors a number rating system is used to determine which sites deserve the most protection from conversion to non-farm uses. The higher the number value given to a proposed site, the more protection it will receive. The maximum scores are 10, 15 and 20 points, depending upon the relative importance of each particular question. If a question significantly relates to why a parcel of land should not be converted, the question has a maximum possible protection value of 20, whereas a question which does not have such a significant impact upon whether a site would be converted, would have fewer maximum points possible, for example 10.

The following guidelines should be used in rating the twelve Site Assessment criteria:

1. **How much land is in non-urban use within a radius of 1.0 mile from where the project is intended?**

More than 90 percent:	15 points
90-20 percent:	14 to 1 points
Less than 20 percent:	0 points

This factor is designed to evaluate the extent to which the area within one mile of the proposed site is non-urban area. For purposes of this rule, "non-urban" should include:

- Agricultural land (crop-fruit trees, nuts, oilseed)
- Range land
- Forest land
- Golf Courses
- Non paved parks and recreational areas
- Mining sites
- Farm Storage
- Lakes, ponds and other water bodies
- Rural roads, and through roads without houses or buildings
- Open space
- Wetlands
- Fish production
- Pasture or hayland

Urban uses include:

- Houses (other than farm houses)
- Apartment buildings
- Commercial buildings
- Industrial buildings
- Paved recreational areas (i.e. tennis courts)
- Streets in areas with 30 structures per 40 acres
- Gas stations

use on the other side of the road for that area. Use 1 and 1/3 acre per structure if not otherwise known. Where 20 to 90 percent of the perimeter is non-urban, assign points as noted below:

Percentage of Perimeter Bordering Land	Points
90 percent or greater	10
82 to 89 percent	9
74 to 81 percent	8
65 to 73 percent	7
58 to 65 percent	6
50 to 57 percent	5
42 to 49 percent	4
34 to 41 percent	3
27 to 33 percent	2
21 to 26 percent	1
20 percent or Less	0

3. **How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last ten years?**

More than 90 percent:	20 points
90 to 20 percent:	19 to 1 point(s)
Less than 20 percent:	0 points

This factor is designed to evaluate the extent to which the proposed conversion site has been used or managed for agricultural purposes in the past 10 years.

Land is being farmed when it is used or managed for food or fiber, to include timber products, fruit, nuts, grapes, grain, forage, oil seed, fish and meat, poultry and dairy products.

Land that has been left to grow up to native vegetation without management or harvest will be considered as abandoned and therefore not farmed. The proposed conversion site should be evaluated and rated according to the percent, of the site farmed.

If more than 90 percent of the site has been farmed 5 of the last 10 years score the site as follows:

Percentage of Site Farmed	Points
90 percent or greater	20
86 to 89 percent	19
82 to 85 percent	18
78 to 81 percent	17
74 to 77 percent	16
70 to 73 percent	15
66 to 69 percent	14
62 to 65 percent	13
58 to 61 percent	12
54 to 57 percent	11
50 to 53 percent	10
46 to 49 percent	9
42 to 45 percent	8
38 to 41 percent	7
35 to 37 percent	6
32 to 34 percent	5
29 to 31 percent	4
26 to 28 percent	3

Types of Agricultural Zoning Ordinances include:

A. Exclusive: In which the agricultural zone is restricted to only farm-related dwellings, with, for example, a minimum of 40 acres per dwelling unit.

B. Non-Exclusive: In which non-farm dwellings are allowed, but the density remains low, such as 20 acres per dwelling unit.

Additional Zoning techniques include:

A. Sliding Scale: This method looks at zoning according to the total size of the parcel owned. For example, the number of dwelling units per a given number of acres may change from county to county according to the existing land acreage to dwelling unit ratio of surrounding parcels of land within the specific area.

B. Point System or Numerical Approach: Approaches land use permits on a case by case basis.

LESA: The LESA system (Land Evaluation-Site Assessment) is used as a tool to help assess options for land use on an evaluation of productivity weighed against commitment to urban development.

C. Conditional Use: Based upon the evaluation on a case by case basis by the Board of Zoning Adjustment. Also may include the method of using special land use permits.

5. Development Rights:

A. Purchase of Development Rights (PDR): Where development rights are purchased by Government action.

Buffer Zoning Districts: Buffer Zoning Districts are an example of land purchased by Government action. This land is included in zoning ordinances in order to preserve and protect agricultural lands from non-farm land uses encroaching upon them.

B. Transfer of Development Rights (TDR): Development rights are transferable for use in other locations designated as receiving areas. TDR is considered a locally based action (not state), because it requires a voluntary decision on the part of the individual landowners.

6. Governor's Executive Order: Policy made by the Governor, stating the importance of agriculture, and the preservation of agricultural lands. The Governor orders the state agencies to avoid the unnecessary conversion of important farmland to nonagricultural uses.

7. Voluntary State Programs:

A. California's Program of Restrictive Agreements and Differential Assessments: The California Land Conservation Act of 1965, commonly known as the Williamson Act, allows cities, counties and individual landowners to form agricultural preserves and enter into contracts for 10 or more years to insure that these parcels of land remain strictly for agricultural use. Since 1972 the Act has extended eligibility to recreational and open space lands such as scenic highway corridors, salt ponds and wildlife preserves. These contractually restricted lands may be taxed differentially for their real value. One hundred-acre districts constitute the minimum land size eligible.

Suggestion: An improved version of the Act would state that if the land is converted after the contract expires, the landowner must pay the difference in the taxes between market value for the land and the agricultural tax value which he or she had been

Under this Act, Oregon cities and counties are each required to draw up a comprehensive plan, consistent with statewide planning goals. Agricultural land preservation is high on the list of state goals to be followed locally.

If the proposed site is subject to or has used one or more of the above farmland protection programs or policies, score the site 20 points. If none of the above policies or programs apply to this site, score 0 points.

5. How close is the site to an urban built-up area?

The site is 2 miles or more from an urban built-up area	15 points
The site is more than 1 mile but less than 2 miles from an urban built-up area	10 points
The site is less than 1 mile from, but is not adjacent to an urban built-up area	5 points
The site is adjacent to an urban built-up area	0 points

This factor is designed to evaluate the extent to which the proposed site is located next to an existing urban area. The urban built-up area must be 2500 population. The measurement from the built-up area should be made from the point at which the density is 30 structures per 40 acres and with no open or non-urban land existing between the major built-up areas and this point. Suburbs adjacent to cities or urban built-up areas should be considered as part of that urban area.

For greater accuracy, use the following chart to determine how much protection the site should receive according to its distance from an urban area. See chart below:

Distance From Perimeter of Site to Urban Area	Points
More than 10,560 feet	15
9,860 to 10,559 feet	14
9,160 to 9,859 feet	13
8,460 to 9,159 feet	12
7,760 to 8,459 feet	11
7,060 to 7,759 feet	10
6,360 to 7,059 feet	9
5,660 to 6,359 feet	8
4,960 to 5,659 feet	7
4,260 to 4,959 feet	6
3,560 to 4,259 feet	5
2,860 to 3,559 feet	4
2,160 to 2,859 feet	3
1,460 to 2,159 feet	2
760 to 1,459 feet	1
Less than 760 feet (adjacent)	0

6. How close is the site to water lines, sewer lines and/or other local facilities and services whose capacities and design would promote nonagricultural use?

None of the services exist nearer than 3 miles from the site	15 points
Some of the services exist more than one but less than 3 miles from the site	10 points
All of the services exist within 1/2 mile of the site	0 points

State and local Natural Resources Conservation Service offices will have the average farm size information, provided by the latest available Census of Agriculture data

8. **If this site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?**

Acreage equal to more than 25 percent of acres directly converted by the project	10 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project	9 to 1 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project	0 points

This factor tackles the question of how the proposed development will affect the rest of the land on the farm The site which deserves the most protection from conversion will receive the greatest number of points, and vice versa. For example, if the project is small, such as an extension on a house, the rest of the agricultural land would remain farmable, and thus a lower number of points is given to the site. Whereas if a large-scale highway is planned, a greater portion of the land (not including the site) will become non-farmable, since access to the farmland will be blocked; and thus, the site should receive the highest number of points (10) as protection from conversion

Conversion uses of the Site Which Would Make the Rest of the Land Non-Farmable by Interfering with Land Patterns

Conversions which make the rest of the property nonfarmable include any development which blocks accessibility to the rest of the site Examples are highways, railroads, dams or development along the front of a site restricting access to the rest of the property.

The point scoring is as follows:

Amount of Land Not Including the Site Which Will Become Non-Farmable	Points
25 percent or greater	10
23 - 24 percent	9
21 - 22 percent	8
19 - 20 percent	7
17 - 18 percent	6
15 - 16 percent	5
13 - 14 percent	4
11 - 12 percent	3
9 - 11 percent	2
6 - 8 percent	1
5 percent or less	0

9. **Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?**

All required services are available	5 points
Some required services are available	4 to 1 point(s)
No required services are available	0 points

This factor is used to assess whether there are adequate support facilities, activities and industry to keep the farming business in business. The more support facilities available to the agricultural

11. Would the project at this site, by converting farmland to nonagricultural use, reduce the support for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

Substantial reduction in demand for support services if the site is converted	10 points
Some reduction in demand for support services if the site is converted	9 to 1 point(s)
No significant reduction in demand for support services if the site is converted	0 points

This factor determines whether there are other agriculturally related activities, businesses or jobs dependent upon the working of the pre-converted site in order for the others to remain in production. The more people and farming activities relying upon this land, the more protection it should receive from conversion. Thus, if a substantial reduction in demand for support services were to occur as a result of conversions, the proposed site would receive a high score of 10; some reduction in demand would receive 9 to 1 point(s), and no significant reduction in demand would receive no points.

Specific points are outlined as follows:

Amount of Reduction in Support Services if Site is Converted to Nonagricultural Use	Points
Substantial reduction (100 percent)	10
90 to 99 percent	9
80 to 89 percent	8
70 to 79 percent	7
60 to 69 percent	6
50 to 59 percent	5
40 to 49 percent	4
30 to 39 percent	3
20 to 29 percent	2
10 to 19 percent	1
No significant reduction (0 to 9 percent)	0

12. Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of the surrounding farmland to nonagricultural use?

Proposed project is incompatible with existing agricultural use of surrounding farmland	10 points
Proposed project is tolerable of existing agricultural use of surrounding farmland	9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland	0 points

Factor 12 determines whether conversion of the proposed agricultural site will eventually cause the conversion of neighboring farmland as a result of incompatibility of use of the first with the latter. The more incompatible the proposed conversion is with agriculture, the more protection this site receives from conversion. Therefor-, if the proposed conversion is incompatible with agriculture, the site receives 10 points. If the project is tolerable with agriculture, it receives 9 to 1 points; and if the proposed conversion is compatible with agriculture, it receives 0 points.

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

All required services are available	5 points
Some required services are available	4 to 1 point(s)
No required services are available	0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

High amount of on-farm investment	20 points
Moderate amount of on-farm investment	19 to 1 point(s)
No on-farm investment	0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

Substantial reduction in demand for support services if the site is convened	25 points
Some reduction in demand for support services if the site is convened	1 to 24 point(s)
No significant reduction in demand for support services if the site is converted	0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?

Proposed project is incompatible to existing agricultural use of surrounding farmland	10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland	9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland	0 points

RANGE PLANTING
SPECIFICATION SHEET (550)

Name: WW Clyde **Date:** November 19, 2008 **Precip:** 14-16

Location: Colten Area **Soil(s):** DLC, DJE **Acres:** 55

Tract: _____ **Field:** _____ **Slope:** 5% **Elevation:** 7300

Planned by: M. Dean Stacy **Erosion Potential:** High

MLRA D34 **Ecological Site:** Mountain Loam (Moutain Big Sagebrush)

Purpose(s): To begin restoration of the plant community
To reduce erosion by wind and/or water

Livestock: _____

Wildlife: Deer & Elk

DWR Consultation: **If Yes, Who with & When:**

Seedbed Preparation:

Chain one way.

Planting Information

Date: Dormant Seeding

Depth: 0-1/8 inch

Spacing: 12 inches

Method: Drill

Equipment: Rangeland Drill

Species	Variety	PLS Rate (lbs/ac)	Bulk Rate (lbs/ac)	Total PLS Seed (lbs)
Wheatgrass, Intermediate		4.62	6.05	254
Wheatgrass, Crest. (Hycrest)		1.79	2.21	98
Wheatgrass, Intermediate		2.62	3.43	144
Fescue, Sheep		0.56	0.88	31
Forage Kochia		0.04	0.07	2
*Total Rate to be Seeded:		9.64	12.64	530

Management During Plant Establishment

Defer grazing for at least two growing seasons or until stand is established.

Operation and Maintenance of Seeding After Establishment

Grazing should be in accordance with Prescribed Grazing (528A) specifications. Weeds, insects, and/or diseases should be controlled through mowing, burning, flash grazing, or pesticides as needed to maintain a healthy stand. Where stands are damaged by drought, insects, or other uncontrollable events, the stand should be replanted, overseeded, or spot planted. Thin stands may only need grazing deferment during the growing season rather than replanting.

Acceptance of Terms

I agree to the installation and maintenance of this practice as outlined. This practice, as installed, meets NRCS standards & specs

Cooperator: **Planner:**

Certification

Success of the practice shall be determined by evaluating growth or occurrence of planted species after sufficient time has passed to monitor the situation and gather reliable data. Evaluation periods will depend on the methods and materials used

Acres: ____ Planned Species Used? ____ Seedbed Preparation as Prescribed? ____

Seeding Method & Depth as Prescribed? ____ Objectives were met? ____

Certified by:

Appendix C
Soil Sample Results

BRIGHAM YOUNG UNIVERSITY

Soil and Plant Analysis Laboratory
255 WIDB
Provo, UT 84602
801-422-2147

Plant and Animal Science Department

Name W.W. Clyde & Co.
Street P.O. Box 1955
Orem UT 84059
City State Zip

SOIL TEST REPORT AND RECOMMENDATIONS

Date: 18-Nov-08
Telephone: 8013601344
Fax: 8012257065

Sample Identification	Crop to be grown	pH	% Sand	% Silt	% Clay	Soil Texture	Cation Exchange meq/100g	% Organic Matter
Soil Sample #1 Woolsey	Turf	7.00	30.64	35.44	33.92	Clay Loam	53.57	4.62

Soil Test	Results	Very Low	Low	Medium	High	Very High	Recommendations
Nitrate-Nitrogen ppm N	3.36	X					apply 2.8 lbs of N/1000 sq ft
Phosphorus ppm P	6.29	X					apply 2.1 lbs of P2O5/1000 sq ft
Potassium ppm K	163.20				X		no fertilizer needed
Salinity-ECe dS/m	0.60	X					no salinity problem
Zinc ppm Zn	0.52	X					apply 10 lbs of Zn/1000 sq ft
Iron ppm Fe	4.52		X				fertilizer possibly needed
Manganese ppm Mn	2.66					X	no fertilizer needed
Copper ppm Cu	1.05					X	no fertilizer needed
SAR-Sodium Absorption Ratio	0.17	X					no sodium hazard
Calcium-SAR ppm Ca	130.72						
Magnesium SAR ppm Mg	9.12						
Sodium SAR ppm Na	7.52						
Ca Carbonate %CaCO3	11.18						
Total N ppm total N	2374.46						

Notes:

BRIGHAM YOUNG UNIVERSITY

Soil and Plant Analysis Laboratory

255 WIDB
Provo, UT 84602
801-422-2147

Plant and Animal Science Department

Name W.W. Clyde & Co.
Street P.O. Box 1955
Orem UT 84059
City State Zip

SOIL TEST REPORT AND RECOMMENDATIONS

Date: 18-Nov-08
Telephone: 8013601344
Fax: 8012257065

Sample Identification	Crop to be grown	pH	% Sand	% Silt	% Clay	Soil Texture	Cation Exchange meq/100g	% Organic Matter
Soil Sample #2 Woolsey	Turf	6.85	29.64	43.44	26.92	Loam	26.43	3.32

Soil Test	Results	Very Low	Low	Medium	High	Very High	Recommendations
Nitrate-Nitrogen ppm N	2.52	X					apply 2.8 lbs of N/1000 sq ft
Phosphorus ppm P	3.59	X					apply 2.1 lbs of P2O5/1000 sq ft
Potassium ppm K	112.00			X			no fertilizer needed
Salinity-ECe dS/m	0.66	X					no salinity problem
Zinc ppm Zn	0.24	X					apply 10 lbs of Zn/1000 sq ft
Iron ppm Fe	4.36		X				fertilizer possibly needed
Manganese ppm Mn	2.59					X	no fertilizer needed
Copper ppm Cu	0.37					X	no fertilizer needed
SAR-Sodium Absorption Ratio	0.11	X					no sodium hazard
Calcium-SAR ppm Ca	137.12						
Magnesium SAR ppm Mg	10.72						
Sodium SAR ppm Na	4.96						
Ca Carbonate %CaCO3	23.93						
Total N ppm total N	1954.81						

Notes:

BRIGHAM YOUNG UNIVERSITY

Soil and Plant Analysis Laboratory

255 WIDB

Provo, UT 84602

801-422-2147

Plant and Animal Science Department

Name W.W. Clyde & Co.

Street P.O. Box 1955

Orem UT 84059

City State Zip

SOIL TEST REPORT AND RECOMMENDATIONS

Date: 18-Nov-08

Telephone: 8013601344

Fax: 8012267065

Sample Identification	Crop to be grown	pH	% Sand	% Silt	% Clay	Soil Texture	Cation Exchange meq/100g	% Organic Matter
Soil Sample #3 Woolsey	Turf	6.95	32.64	24.44	42.92	Clay	25.96	3.32

Soil Test	Results	Very Low	Low	Medium	High	Very High	Recommendations
Nitrate-Nitrogen ppm N	2.55	X					apply 2.8 lbs of N/1000 sq ft
Phosphorus ppm P	3.36	X					apply 2.1 lbs of P2O5/1000 sq ft
Potassium ppm K	48.00		X				apply 0.9 lbs of K2O/1000 sq ft
Salinity-ECe dS/m	0.43	X					no salinity problem
Zinc ppm Zn	0.18	X					apply 10 lbs of Zn/1000 sq ft
Iron ppm Fe	3.02		X				fertilizer possibly needed
Manganese ppm Mn	1.46					X	no fertilizer needed
Copper ppm Cu	0.47					X	no fertilizer needed
SAR-Sodium Absorption Ratio	0.17	X					no sodium hazard
Calcium-SAR ppm Ca	92.32						
Magnesium SAR ppm Mg	5.76						
Sodium SAR ppm Na	6.24						
Ca Carbonate %CaCO3	59.23						
Total N ppm total N	3159.97						

Notes:

BRIGHAM YOUNG UNIVERSITY

Soil and Plant Analysis Laboratory

255 WIDB
Provo, UT 84602
801-422-2147

Plant and Animal Science Department

Name W.W. Clyde & Co.
Street P.O. Box 1955
Orem UT 84059
City State Zip

SOIL TEST REPORT AND RECOMMENDATIONS

Date: 18-Nov-08
Telephone: 8013601344
Fax: 8012257065

Sample Identification	Crop to be grown	pH	% Sand	% Silt	% Clay	Soil Texture	Cation Exchange meq/100g	% Organic Matter
Soil Sample #4 Woolsey	Turf	6.89	33.64	29.44	36.92	Clay Loam	26.52	2.34

Soil Test	Results	Very Low	Low	Medium	High	Very High	Recommendations
Nitrate-Nitrogen ppm N	1.68	X					apply 2.8 lbs of N/1000 sq ft
Phosphorus ppm P	2.29	X					apply 2.1 lbs of P2O5/1000 sq ft
Potassium ppm K	256.00				X		no fertilizer needed
Salinity-ECe dS/m	0.68	X					no salinity problem
Zinc ppm Zn	0.27	X					apply 10 lbs of Zn/1000 sq ft
Iron ppm Fe	5.14			X			no fertilizer needed
Manganese ppm Mn	2.97					X	no fertilizer needed
Copper ppm Cu	0.95					X	no fertilizer needed
SAR-Sodium Absorption Ratio	0.19	X					no sodium hazard
Calcium-SAR ppm Ca	93.12						
Magnesium SAR ppm Mg	13.12						
Sodium SAR ppm Na	7.62						
Ca Carbonate %CaCO3	22.15						
Total N ppm total N	1481.35						

Notes:

BRIGHAM YOUNG UNIVERSITY

Soil and Plant Analysis Laboratory

255 WIDB
Provo, UT 84602
801-422-2147

Plant and Animal Science Department

Name W.W. Clyde & Co.
Street P.O. Box 1955
Orem UT 84059
City State Zip

SOIL TEST REPORT AND RECOMMENDATIONS

Date: 18-Nov-08
Telephone: 8013601344
Fax: 8012257065

Sample Identification	Crop to be grown	pH	% Sand	% Silt	% Clay	Soil Texture	Cation Exchange meq/100g	% Organic Matter
Soil Sample #5 Woolsey	Turf	6.75	39.64	25.44	34.92	Clay Loam	20.91	2.47

Soil Test	Results	Very Low	Low	Medium	High	Very High	Recommendations
Nitrate-Nitrogen ppm N	2.22	X					apply 2.8 lbs of N/1000 sq ft
Phosphorus ppm P	4.40	X					apply 2.1 lbs of P2O5/1000 sq ft
Potassium ppm K	102.40			X			no fertilizer needed
Salinity-ECe dS/m	0.70	X					no salinity problem
Zinc ppm Zn	0.23	X					apply 10 lbs of Zn/1000 sq ft
Iron ppm Fe	5.04			X			no fertilizer needed
Manganese ppm Mn	3.77					X	no fertilizer needed
Copper ppm Cu	0.68					X	no fertilizer needed
SAR-Sodium Absorption Ratio	0.44	X					no sodium hazard
Calcium-SAR ppm Ca	126.88						
Magnesium SAR ppm Mg	16.16						
Sodium SAR ppm Na	20.00						
a Carbonate %CaCO3	53.46						
Total N ppm total N	1947.63						

Notes:

BRIGHAM YOUNG UNIVERSITY

Soil and Plant Analysis Laboratory
255 WIDB
Provo, UT 84602
801-422-2147

Plant and Animal Science Department

Name W.W. Clyde & Co.
Street P.O. Box 1955
Orem UT 84059
City State Zip

SOIL TEST REPORT AND RECOMMENDATIONS

Date: 18-Nov-08
Telephone: 8013601344
Fax: 8012257065

Sample Identification	Crop to be grown	pH	% Sand	% Silt	% Clay	Soil Texture	Cation Exchange meq/100g	% Organic Matter
Soil Sample #7 Woolsey	Turf	7.39	28.64	32.44	38.92	Clay Loam	35.48	2.65

Soil Test	Results	Very Low	Low	Medium	High	Very High	Recommendations
Nitrate-Nitrogen ppm N	2.95	X					apply 2.8 lbs of N/1000 sq ft
Phosphorus ppm P	4.23	X					apply 2.1 lbs of P2O5/1000 sq ft
Potassium ppm K	60.80		X				apply 0.9 lbs of K2O/1000 sq ft
Salinity-ECe dS/m	0.53	X					no salinity problem
Zinc ppm Zn	0.12	X					apply 10 lbs of Zn/1000 sq ft
Iron ppm Fe	5.16			X			no fertilizer needed
Manganese ppm Mn	2.71					X	no fertilizer needed
Copper ppm Cu	0.29					X	no fertilizer needed
SAR-Sodium Absorption Ratio	0.41	X					no sodium hazard
Calcium-SAR ppm Ca	90.72						
Magnesium SAR ppm Mg	8.48						
Sodium SAR ppm Na	15.36						
Ca Carbonate %CaCO3	14.19						
Total N ppm total N	1144.19						

Notes:

BRIGHAM YOUNG UNIVERSITY

Soil and Plant Analysis Laboratory
255 WIDB
Provo, UT 84602
801-422-2147

Plant and Animal Science Department

Name W.W. Clyde & Co.
Street P.O. Box 1965
Orem UT 84059
City State Zip

SOIL TEST REPORT AND RECOMMENDATIONS

Date: 18-Nov-08
Telephone: 8013601344
Fax: 8012257065

Sample Identification	Crop to be grown	pH	% Sand	% Silt	% Clay	Soil Texture	Cation Exchange meq/100g	% Organic Matter
Soil Sample #8 Woolsey	Turf	7.29	28.64	39.44	31.92	Clay Loam	31.30	3.88

Soil Test	Results	Very Low	Low	Medium	High	Very High	Recommendations
Nitrate-Nitrogen ppm N	2.01	X					apply 2.8 lbs of N/1000 sq ft
Phosphorus ppm P	4.64	X					apply 2.1 lbs of P2O5/1000 sq ft
Potassium ppm K	51.20		X				apply 0.9 lbs of K2O/1000 sq ft
Salinity-ECe dS/m	0.50	X					no salinity problem
Zinc ppm Zn	0.46	X					apply 10 lbs of Zn/1000 sq ft
Iron ppm Fe	6.13			X			no fertilizer needed
Manganese ppm Mn	2.34					X	no fertilizer needed
Copper ppm Cu	0.92					X	no fertilizer needed
SAR-Sodium Absorption Ratio	0.70	X					no sodium hazard
Calcium-SAR ppm Ca	74.40						
Magnesium SAR ppm Mg	5.12						
Sodium SAR ppm Na	23.20						
Ca Carbonate %CaCO3	15.80						
Total N ppm total N	1642.32						

Notes:

Appendix D
Correspondence

INTERMOUNTAIN ECOSYSTEMS LC

270 East 1230 North • Springville, UT 84663 • (801) 489-4590 • Fax (801) 489-8236

8 November 2008

Lance Greer
W.W. Clyde
1375 North Main Street
Springville, Utah 84663

RE: Woolsey Pit, Utah County—T&E & Wetland Inventory

Dear Mr. Greer:

On October 10, I inventoried approximately 300 acres for the occurrence of Jurisdictional Wetlands administered under the Clean Water Act and Threatened and Endangered Species administered under the Endangered Species Act. The parcel is approximately located at Latitude N 39 degrees 50.623 minutes and longitude W 111 degrees and 0.241 minutes near Colton, Utah. The 40 acre site was vegetated to big sagebrush and montane shrubs with no aquatics features. I concluded that the planned gravel operation & excavation would not impact any wetlands or waters of the U.S.

I did not observe any habitat for federally listed T&E plant or animal species. In addition, I did not observe any indications of white-tailed prairie dogs or suitable habitat for the sage grouse which are Utah Species of Special Concern.

I therefore conclude a "No Affects" determination for federally listed T&E species. I have photographs on file if they are needed for future correspondence with the Army Corps of Engineers, Utah Division of Wildlife Resources or the U.S. Fish and Wildlife Service. Thanks for the opportunity to work on this project. If there are any questions, please contact me.

Sincerely,

Ronald J. Kass, Ph.D.
Botanist and Professional Wetland Scientist (0001265)

JON M. HUNTSMAN, JR.
Governor
GARY R. HERBERT
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Wildlife Resources
JAMES F. KARPOWITZ
Division Director

November 4, 2008

Evan Grover
W.W. Clyde & Co.
1375 North Main Street
Springville, UT 84663

Subject: Species of Concern Near the Woolsey Property Near Colton, Utah

Dear Evan Grover:

I am writing in response to your email dated November 3, 2008 regarding information on species of special concern proximal to the property located in Sections 23 and 26 of Township 11 South, Range 8 East, SLB&M, near Colton, Utah County, Utah.

Within a ½-mile radius of the project area noted above, the Utah Division of Wildlife Resources (UDWR) has recent records of occurrence for greater sage-grouse, and historical records of occurrence for bluehead sucker and white-tailed prairie dog. All of the aforementioned species are included on the *Utah Sensitive Species List*.

The information provided in this letter is based on data existing in the Utah Division of Wildlife Resources' central database at the time of the request. It should not be regarded as a final statement on the occurrence of any species on or near the designated site, nor should it be considered a substitute for on-the-ground biological surveys. Moreover, because the Utah Division of Wildlife Resources' central database is continually updated, and because data requests are evaluated for the specific type of proposed action, any given response is only appropriate for its respective request.

In addition to the information you requested, other significant wildlife values might also be present on the designated site. Please contact UDWR's habitat manager for the southeastern region, Chris Wood, at (435) 613-3709 if you have any questions.

Please contact our office at (801) 538-4759 if you require further assistance.

Sincerely,

Sarah Lindsey

Sarah Lindsey
Information Manager
Utah Natural Heritage Program

cc: Chris Wood, SERO

1594 W. North Temple, Suite 2110, PO Box 146301, Salt Lake City, UT 84114-6301
telephone (801) 538-4700 • facsimile (801) 538-4709 • TTY (801) 538-7458 • *www.wildlife.utah.gov*

UTAH DNR WILDLIFE RESOURCES

Utah Division of Water Rights

Search

Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 01/22/2009 Page 1

CHANGE: a28267 WATER RIGHT: 91-3050 CERT. NO.: AMENDATORY? No
BASE WATER RIGHTS: 91-3050
91-3403
RIGHT EVIDENCED BY: 91-3050 and 91-3403
CHANGES: Point of Diversion [X], Place of Use [X], Nature of Use [X], Reservoir Storage [X].

NAME: Dennis V. Finch
ADDR: HC 35 Box 200
Helper UT 84526
INTEREST: 100% REMARKS:

FILED: 09/12/2003 | PRIORITY: 09/12/2003 | ADV BEGAN: 10/09/2003 | ADV ENDED: 10/16/2003 | NEWSPAPER: Sun Advocate
ProtestEnd: 11/05/2003 | PROTESTED: [No] | HEARNG HLD: | SE ACTION: [Approved] | ActionDate: 04/21/2004 | PROOF DUE: 04/30/2009
EXTENSION: | ELEC/PROOF: [ ] | ELEC/PROOF: | CERT/WUC: | LAP, ETC: | LAPS LETTER:
RUSH LETTR: | RENOVATE: | RECON REQ: | TYPE: [ ]
Status: Approved

H E R E T O F O R E	H E R E A F T E R
FLOW: 0.022 cfs	FLOW: 0.768 acre-feet
SOURCE: Unnamed Spring	SOURCE: Underground Water Well (existing) & Unnamed Spring
COUNTY: Utah	COUNTY: Utah COM DESC: 26 miles NW of Price
	This Change is being filed to add a well for domestic use only; spring will be for storage and stockwatering; and to correct location of reservoir. Heretofore: Depletion: Hereafter: Depletion: 0.73 family 0.146 0.45 family 0.09 0.20 stock 0.20 0.20 stock 0.20 1.26 cafe, ser.station 0.252 0.118 evaporation 0.118 2.19 AF total 0.598 AF total 0.768 AF total 0.408 AF total

POINT(S) OF DIVERSION ------> MAP VIEWER	CHANGED AS FOLLOWS: (Click Location link for WRPLAT)
Point Surface: (1) S 253 ft E 745 ft from W4 cor, Sec 23, T 11S, R 8E, SLBM Dvrting Wks: Spring box and pipeline to place of use Source:	Point Surface: (1) S 253 ft E 745 ft from W4 cor, Sec 23, T 11S, R 8E, SLBM Dvrting Wks: Spring runs to reservoir Source: Stream Alt?: No
Point Underground:	UNDERGROUND: (Click Link for PLAT data, Well ID# link for data.) (1) S 223 ft E 835 ft from W4 cor, Sec 23, T 11S, R 8E, SLBM Diameter: 04 ins. Depth: 310 to ft. WELL ID#: COMMENT:

PLACE OF USE ------>	CHANGED as follows:
--NW¼-- --NE¼-- --SW¼-- --SE¼-- N N S S / N N S S / N N S S / N N S S W E W E / W E W E / W E W E / W E W E Sec 23 T 11S R 8E SLBM * : : : ** : : : **X: : : ** : : : *	--NW¼-- --NE¼-- --SW¼-- --SE¼-- N N S S / N N S S / N N S S / N N S S W E W E / W E W E / W E W E / W E W E Sec 23 T 11S R 8E SLBM * : : : ** : : : **X: : : ** : : : *

NATURE OF USE ------>	CHANGED as follows:
SUPPLEMENTAL to Other Water Rights: Yes	SUPPLEMENTAL to Other Water Rights: No
STK: 7.0000 Cattle or Equivalent USED 01/01 - 12/31	STK: 7.0000 Cattle or Equivalent USED 01/01 - 12/31
DOM: 1.0000 Equivalent Domestic Unit USED 01/01 - 12/31	DOM: 1.0000 Equivalent Domestic Unit USED 01/01 - 12/31
OTH: COMMERCIAL: Service Station, Cafe and Tavern. USED 01/01 - 12/31	

RESERVOIR STORAGE -->	CHANGED as follows:
Storage 01/01 to 12/31, in Unnamed Stock Reservoir with a maximum capacity of 0.250 acre-feet, located in:	Storage 01/01 to 12/31, in Unnamed Reservoir with a maximum capacity of 0.250 acre-feet, located in:

```
|                              --NW¼--  --NE¼--  --SW¼--  --SE¼-- ||                              --NW¼--  --NE¼--  --SW¼--  --SE¼-- |
| Height of Dam:        6 ft |N N S S||N N S S||N N S S||N N S S||| Height of Dam:        6 ft |N N S S||N N S S||N N S S||N N S S||
| Area Inundat      0.100 acs|W E W E||W E W E||W E W E||W E W E||| Area Inundat      0.100 acs|W E W E||W E W E||W E W E||W E W E||
|Sec 23 T 11S R  8E SLBM      * : : : ** : : : ** : : :X** : : : *||Sec 23 T 11S R  8E SLBM      * : : : ** : : : **X: : : ** : : : *|
|-----------------------------------------------------------------||-----------------------------------------------------------------|
|-----------------------------------------------------------------||-----------------------------------------------------------------|
|                                                                 ||Small Dam Permit Required?: No                                   |
*************************************************************************************************************************************
*********************************************************E N D   O F   D A T A*******************************************************
*************************************************************************************************************************************
```

WL1

WELL DRILLER'S REPORT

State of Utah
Division of Water Rights

For additional space, use "Additional Well Data Form" and attach

RECEIVED
MAR 08 1996
WATER RIGHTS
SALT LAKE

Well Identification PROVISIONAL WELL: 95-91-002-P-01

91-3050

Owner *Note any changes*

Dennis Finch
Colton - Star Route Box 770
Helper, UT 84526

RECEIVED
MAR 25 1996
WATER RIGHTS
PRICE

Contact Person/Engineer: _____

Well Location *Note any changes*

SOUTH 420 feet EAST 770 feet from the W¼ Corner of SECTION 23, TOWNSHIP 11S, RANGE 8E, SLB&M.

RECEIVED
JAN 28 2004
WATER RIGHTS
SALT LAKE

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #) _____

Drillers Activity Start Date: Sep 27, 1995 Completion Date: _____

Check all that apply:
☒ New ☐ Repair ☐ Deepen ☐ Abandon ☐ Replace ☐ Public Nature of Use:

DEPTH (feet) FROM	TO	BOREHOLE DIAMETER (in)	DRILLING METHOD	DRILLING FLUID
0	310	8 3/4"	Air Rotary	

Well Log

DEPTH (feet) FROM	TO	WATER	PERMEABLE high	PERMEABLE low	UNCONSOLIDATED CLAY	SILT	SAND	GRAVEL	COBBLES	BOULDER	OTHER	CONSOLIDATED ROCK TYPE	COLOR	DESCRIPTIONS AND REMARKS (Include comments on *water quality* if known.)
0	7				X									
7	9											Ledgerock		hard
9	150				X									
150	180						X							sand stone
180	205				X									
205	212	X					X							
212	220											Ledgerock		hard
220	280				X									
280	290						X							
290	310	X												

SCANNED

Static Water Level

Date 9-28-95 Water Level 130 feet Flowing? ☐ Yes ☒ No

Method of Water Level Measurement _____ If Flowing, Capped Pressure _____ PSI

Point to Which Water Level Measurement was Referenced _____

Height of Water Level reference point above ground surface _____ feet Temperature _____ ☐ °C ☐ °F

[redacted] Well Log [redacted]

Construction Information

DEPTH (feet) FROM	DEPTH (feet) TO	CASING: CASING TYPE AND MATERIAL/GRADE	CASING: WALL THICK (in)	CASING: NOMINAL DIAM. (in)	SCREEN ☐ PERFORATIONS ☒ DEPTH (feet) FROM	DEPTH (feet) TO	SLOT SIZE OR PERF SIZE (in)	SCREEN DIAM. OR PERF LENGTH (in)	SCREEN TYPE OR NUMBER PERF (per round/interval)
+2	310	PVC	Std	4	200	300	1/16"	6"	80

Well Head Configuration: _____ Access Port Provided? ☐ Yes ☐ No

Casing Joint Type: slip - glue - screw Perforator Used: grinder

FILTER PACK / GROUT / PACKER / ABANDONMENT MATERIAL

DEPTH (feet) FROM	DEPTH (feet) TO	ANNULAR MATERIAL, ABANDONMENT MATERIAL and/or PACKER DESCRIPTION	Quantity of Material Used (if applicable)	GROUT DENSITY (lbs./gal., # bag mix, gal./sack etc.)
30	310	3/8" washed pea gravel		
5	30	cement surface seal / mixed w/ bentonite		

Well Development / Pump or Bail Tests

Date	Method	Yield	Units Check One GPM	Units Check One CFS	DRAWDOWN (ft)	TIME PUMPED (hrs & min)

Pump (Permanent)

Pump Description: _____ Horsepower: _____ Pump Intake Depth: _____ feet

Approximate maximum pumping rate: _____ Well disinfected upon completion? ☐ Yes ☐ No

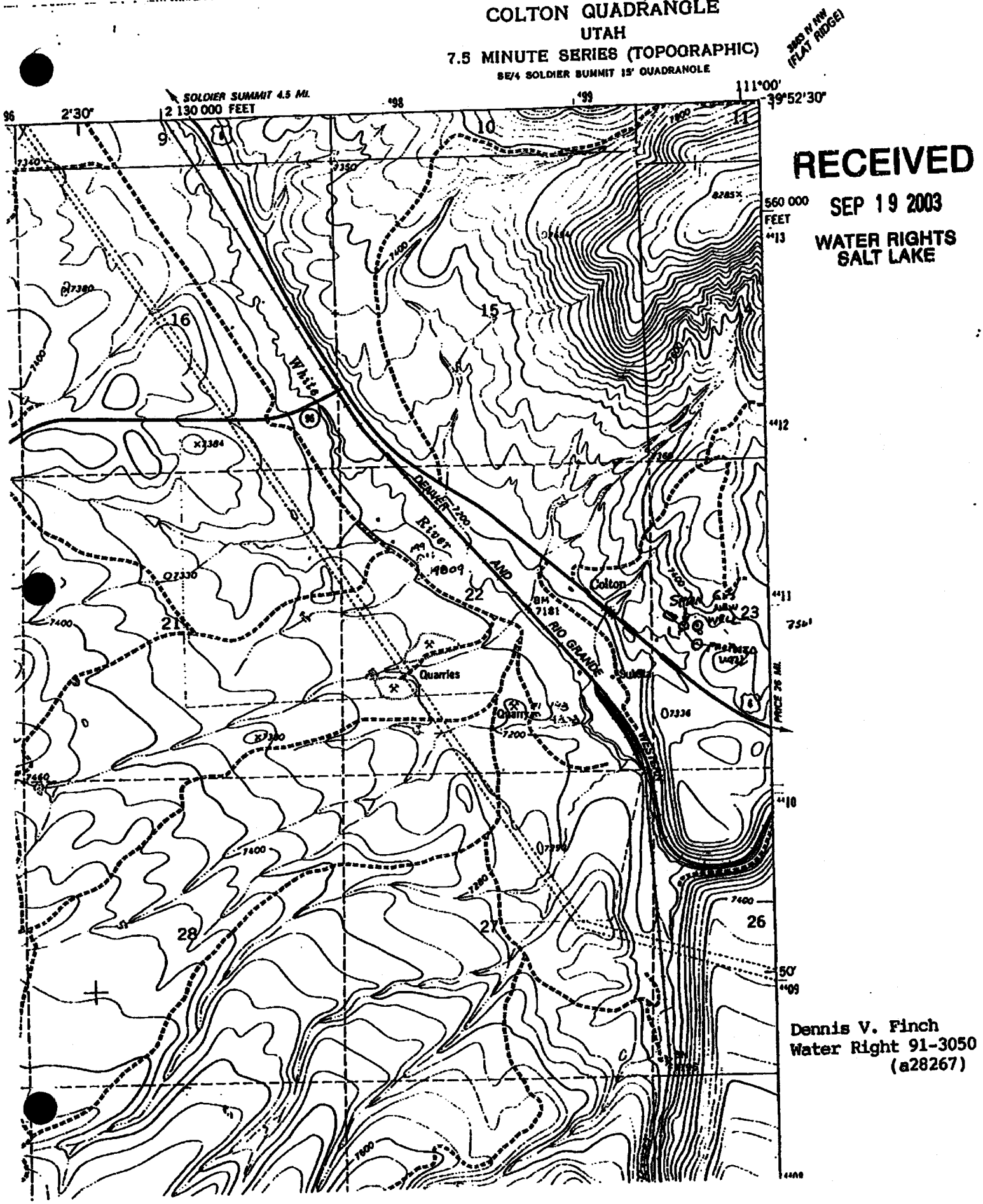
Comments Description of construction activity, additional materials used, problems encountered, extraordinary circumstances, abandonment / procedures. *Use additional well data form for more space.*

When circulating air to air lift water from the well to clean the well; estimate yield at approximately 5 g.p.m.

Well Driller Statement This well was drilled or abandoned under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief.

Name Parker Air Drilling (Person, Firm, or Corporation – Print or Type) License No. 374

Signature Larry D Parker (Licensed Well Driller) Date March 3, 1996



RECEIVED
SEP 19 2003
WATER RIGHTS
SALT LAKE

Dennis V. Finch
Water Right 91-3050
(a28267)

STATE OF UTAH – DIVISION OF WATER RIGHTS – DATA PRINT OUT for 91-224(A28351)

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 01/22/2009 Page 1

WATER RIGHT: 91-224 APPLICATION/CLAIM NO.: A28351 CERT. NO.: CERTIFICAT

CHANGES: a20942 Approved, a23011 Cert. (Issued: 06/11/1999)

OWNERSHIP**********

NAME: Pacificorp dba Utah Power & Light Company
ADDR: 1407 West North Temple #110
Salt Lake City UT 84116

DATES, ETC.**********

LAND OWNED BY APPLICANT?

FILED: 07/16/1956	PRIORITY: 07/18/1956	PUB BEGAN:	PUB ENDED:	NEWSPAPER:	
ProtestEnd:	PROTESTED: [No]	HEARNG HLD:	SE ACTION: [Approved]	ActionDate:01/31/1958	PROOF DUE:
EXTENSION:	ELEC/PROOF:[ ]	ELEC/PROOF:	CERT/WUC: 06/11/1999	LAP, ETC:	LAPS LETTER:
RUSH LETTR:	RENOVATE:	RECON REQ:	TYPE: [ ]		

PD BOOK: [91-] MAP: [ ] PUB DATE:

Type of Right: Application to Appropriate Source of Info: Certificate Status: Certificate

LOCATION OF WATER RIGHT**********

FLOW: 25.88 cfs SOURCE: Price River and Underground Water Wells

COUNTY: Carbon COMMON DESCRIPTION:

POINTS OF DIVERSION -- SURFACE:
(1) N 1488 ft W 751 ft from S4 cor, Sec 26, T 12S, R 9E, SLBM
Diverting Works: Source:
(2) S 46 ft E 649 ft from N4 cor, Sec 35, T 12S, R 9E, SLBM
Diverting Works: Source:

Stream Alt Required?: No

POINTS OF DIVERSION -- UNDERGROUND:
(1) N 949 ft E 645 ft from S4 cor, Sec 22, T 11S, R 8E, SLBM
DIAMETER OF WELL: 16 ins. DEPTH: 1523 to ft. YEAR DRILLED: 1953 WELL LOG? Yes WELL ID#:
Comment:
(2) N 1026 ft E 1334 ft from W4 cor, Sec 22, T 11S, R 8E, SLBM
DIAMETER OF WELL: 20 ins. DEPTH: 2103 to ft. YEAR DRILLED: 1954 WELL LOG? Yes WELL ID#:
Comment:

POINTS OF REDIVERSION:
(1) N 1488 ft W 751 ft from S4 cor, Sec 26, T 12S, R 9E, SLBM
Diverting Works: Source:
(2) S 46 ft E 649 ft from N4 cor, Sec 35, T 12S, R 9E, SLBM
Diverting Works: Source:

USES OF WATER RIGHT******** ELU -- Equivalent Livestock Unit (cow, horse, etc.) ******** EDU -- Equivalent Domestic Unit or 1 Family

SUPPLEMENTAL GROUP NO. 614301. Water Rights Appurtenant to the following use(s):
91-198,199,224,342,344,356,766,1812,1813,1814,1815,1816,1817

POWER: Carbon Plant Steam Generation Power Plant, rated at 175 KW. PERIOD OF USE: 01/01 TO 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated

###PLACE OF USE:	NORTH WEST QUARTER				NORTH EAST QUARTER				SOUTH WEST QUARTER				SOUTH EAST QUARTER				Section
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	Totals
Sec 01 T 13S R 9E SLBM				X													0.0000
																GROUP ACREAGE TOTAL:	0.0000

SUPPLEMENTAL GROUP NO. 615696. Water Rights Appurtenant to the following use(s):
91-198,199,224,274,275,279,280,342,344,356,736,766,1812,1813,1814,1815,1816,1817,4823,4830,4835,4836,4952

MUNICIPAL: Price River Water Improvement District PERIOD OF USE: 01/01 TO 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated

OTHER COMMENTS**********

WATER RIGHT NUMBER	PRIORITY DATE	FLOW (cfs)	PERIOD OF USE
91-198	10/14/1952	2.75	01/01 To 12/31
91-199	5/21/1953	4.57	01/01 To 12/31
91-224	7/18/1956	10.0	10/01 To 04/01
91-342	1874	0.7315	03/01 To 11/30
91-344	1874	0.5715	03/01 To 11/30
91-356	1874	1.83	03/01 To 11/30
91-356	1876	0.50	03/01 To 11/30
91-766	8/30/1906	3.50	10/01 To 03/31
91-1812	1874	0.2685	03/01 To 11/30
91-1813	1874	0.0833	03/01 To 11/30
91-1814	1874	0.0952	03/01 To 11/30
91-1815	1876	0.50	01/01 To 12/31
91-1816	1878	0.24	01/01 To 12/31
91-1817	1880	0.24	01/01 To 12/31
	TOTAL	25.88	

**********E N D O F D A T A**********

Ellis Erosion Control Systems, Inc.

1330 Apple Ave., Provo, Utah
801-376-6333 / 801-373-8871
Fax: 801-374-1812

27 January, 2009

Brent Sumsion
Clyde Companies
Orem, Utah
phone: 801-360-1344 Fax: 801-225-7065 email: bsumsion@clydeinc.com

Dear Brent:

In response to you inquiry of 26 January, 2009 concerning seeding for the Colton/Woolsey Quarry I am submitting the following:

Seed mix plus application — Cost = $197.00 per acre

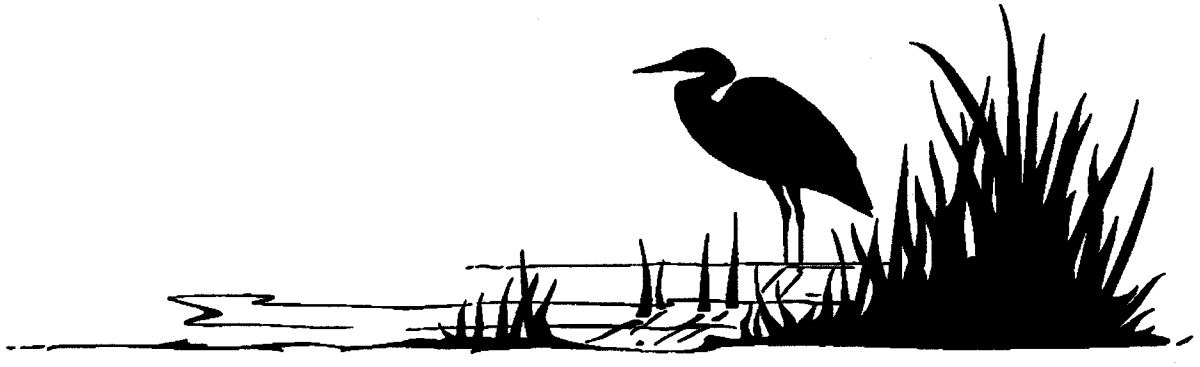
Crested wheatgrass	1.79 lbs pls / acre
Intermediate wheatgrass	7.24 "
Forage Kochia	0.04 "
Sheep Fescue	0.56 "
Total	9.64 lbs pls / acre

Pricing for composted manure
Providing and applying 10 tons per acre — Cost = $2,200.00 per acre

If you have any questions please call my cell: 801-376-6333.

Respectfully,

Kelly T. Ellis
President/General Manager, CPESC



Davis County

Common Name	Scientific Name	Status
Yellow-billed Cuckoo	*Coccyzus americanus*	C

Duchesne County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Shrubby Reed-mustard	*Glaucocarpum suffrutescens*	E
Barneby Ridge-cress	*Lepidium barnebyanum*	E
Pariette Cactus	*Sclerocactus brevispinus*	T
Uinta Basin Hookless Cactus	*Sclerocactus glaucus*	T
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Black-footed Ferret	*Mustela nigripes*	E Experimental
Gray Wolf	*Canis lupus*	E Extirpated
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated

Emery County

Common Name	Scientific Name	Status
Jones Cycladenia	*Cycladenia humilis var jonesii*	T
Maguire Daisy	*Erigeron maguirei*	T
Last Chance Townsendia	*Townsendia aprica*	T
Barneby Reed-mustard	*Schoenocrambe barnebyi*	E
San Rafael Cactus	*Pediocactus despainii*	E
Winkler Pincushion Cactus	*Pediocactus winkleri*	T
Wright Fishhook Cactus	*Sclerocactus wrightiae*	E
Humpback Chub	*Gila cypha*	E
Bonytail	*Gila elegans*	E
Colorado Pikeminnow	*Ptychocheilus lucius*	E
Razorback Sucker	*Xyrauchen texanus*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Mexican Spotted Owl	*Strix occidentalis lucida*	T
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Black-footed Ferret	*Mustela nigripes*	E Extirpated
Canada Lynx	*Lynx canadensis*	T

Garfield County

Common Name	Scientific Name	Status
Maguire Daisy	*Erigeron maguirei*	T
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Jones Cycladenia	*Cycladenia humilis var jonesii*	T
Autumn Buttercup	*Ranunculus aestivalis*	E
Humpback Chub	*Gila cypha*	E
Bonytail	*Gila elegans*	E
Colorado Pikeminnow	*Ptychocheilus lucius*	E
Razorback Sucker	*Xyrauchen texanus*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Mexican Spotted Owl	*Strix occidentalis lucida*	T
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Utah Prairie-dog	*Cynomys parvidens*	T

Garfield County - continued

Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated

Grand County

Common Name	Scientific Name	Status
Jones Cycladenia	*Cycladenia humilis var jonesii*	T
Humpback Chub	*Gila cypha*	E
Bonytail	*Gila elegans*	E
Colorado Pikeminnow	*Ptychocheilus lucius*	E
Razorback Sucker	*Xyrauchen texanus*	E
Mexican Spotted Owl	*Strix occidentalis lucida*	T
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Black-footed Ferret	*Mustela nigripes*	E Extirpated

Iron County

Common Name	Scientific Name	Status
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Mexican Spotted Owl	*Strix occidentalis lucida*	T
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Utah Prairie-dog	*Cynomys parvidens*	T
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated

Juab County

Common Name	Scientific Name	Status
Yellow-billed Cuckoo	*Coccyzus americanus*	C

Kane County

Common Name	Scientific Name	Status
Welsh's Milkweed	*Asclepias welshii*	T
Kodachrome Bladderpod	*Lesquerella tumulosa*	E
Siler Pincushion Cactus	*Pediocactus sileri*	T
Jones Cycladenia	*Cycladenia humilis var jonesii*	T
Kanab Ambersnail	*Oxyloma kanabense*	E
Coral Pink Sand Dunes Tiger Beetle	*Cicindela limbata albissima*	C
Humpback Chub	*Gila cypha*	E
Bonytail	*Gila elegans*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Mexican Spotted Owl	*Strix occidentalis lucida*	T
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Utah Prairie-dog	*Cynomys parvidens*	T

Millard County

Common Name	Scientific Name	Status
Utah Prairie-dog	*Cynomys parvidens*	T

Morgan County

Common Name	Scientific Name	Status
Yellow-billed Cuckoo	*Coccyzus americanus*	C

Piute County

Common Name	Scientific Name	Status
Utah Prairie-dog	*Cynomys parvidens*	T
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated

Rich County

Common Name	Scientific Name	Status
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Black-footed Ferret	*Mustela nigripes*	E Extirpated

Salt Lake County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
June Sucker	*Chasmistes liorus*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C

San Juan County

Common Name	Scientific Name	Status
Navajo Sedge	*Carex specuicola*	T
Humpback Chub	*Gila cypha*	E
Bonytail	*Gila elegans*	E
Colorado Pikeminnow	*Ptychocheilus lucius*	E
Razorback Sucker	*Xyrauchen texanus*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Mexican Spotted Owl	*Strix occidentalis lucida*	T
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Black-footed Ferret	*Mustela nigripes*	E Extirpated
Gray Wolf	*Canis lupus*	E Extirpated

Sanpete County

Common Name	Scientific Name	Status
Heliotrope Milkvetch	*Astragalus montii*	T
Utah Prairie-dog	*Cynomys parvidens*	T
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated
Canada Lynx	*Lynx canadensis*	T

Sevier County

Common Name	Scientific Name	Status
Last Chance Townsendia	*Townsendia aprica*	T
Wright Fishhook Cactus	*Sclerocactus wrightiae*	E
Heliotrope Milkvetch	*Astragalus montii*	T
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E

Sevier County - continued

Utah Prairie-dog	*Cynomys parvidens*	T
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated
Canada Lynx	*Lynx canadensis*	T

Summit County

Common Name	Scientific Name	Status
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated
Canada Lynx	*Lynx canadensis*	T

Tooele County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Bonytail	*Gila elegans*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C

Uintah County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Shrubby Reed-mustard	*Glaucocarpum suffrutescens*	E
Clay Reed-mustard	*Schoenocrambe argillacea*	T
Pariette Cactus	*Sclerocactus brevispinus*	T
Uinta Basin Hookless Cactus	*Sclerocactus glaucus*	T
White River Beardtongue	*Penstemon scariosus var albifluvis*	C
Humpback Chub	*Gila cypha*	E
Bonytail	*Gila elegans*	E
Colorado Pikeminnow	*Ptychochellus lucius*	E
Razorback Sucker	*Xyrauchen texanus*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Mexican Spotted Owl	*Strix occidentalis lucida*	T
Black-footed Ferret	*Mustela nigripes*	E Experimental
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated
Canada Lynx	*Lynx canadensis*	T

Utah County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Deseret Milkvetch	*Astragalus desereticus*	T
Clay Phacelia	*Phacelia argillacea*	E
Utah Valvata Snail	*Valvata utahensis*	E Extirpated
June Sucker	*Chasmistes liorus*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated

Wasatch County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Clay Phacelia	*Phacelia argillacea*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated
Canada Lynx	*Lynx canadensis*	T

Washington County

Common Name	Scientific Name	Status
Siler Pincushion Cactus	*Pediocactus sileri*	T
Shivwits or Shem Milkvetch	*Astragalus ampullarioides*	E
Holmgren Milkvetch	*Astragalus holmgreniorum*	E
Dwarf Bearclaw-poppy	*Arctomecon humilis*	E
Virgin Chub	*Gila seminuda*	E
Woundfin	*Plagopterus argentissimus*	E
Relict Leopard Frog	*Rana onca*	C Extirpated
Desert Tortoise	*Gopherus agassizii*	T
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Mexican Spotted Owl	*Strix occidentalis lucida*	T
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Gray Wolf	*Canis lupus*	E Extirpated
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated

Wayne County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Maguire Daisy	*Erigeron maguirei*	T
Barneby Reed-mustard	*Schoenocrambe barnebyi*	E
Winkler Pincushion Cactus	*Pediocactus winkleri*	T
Wright Fishhook Cactus	*Sclerocactus wrightiae*	E
Last Chance Townsendia	*Townsendia aprica*	T
San Rafael Cactus	*Pediocactus despainii*	E
Humpback Chub	*Gila cypha*	E
Razorback Sucker	*Xyrauchen texanus*	E
Bonytail	*Gila elegans*	E
Colorado Pikeminnow	*Ptychocheilus lucius*	E
Mexican Spotted Owl	*Strix occidentalis lucida*	T
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Utah Prairie-dog	*Cynomys parvidens*	T

Weber County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Ogden Rocky Mountainsnail	*Oreohelix peripherica wasatchensis*	C
June Sucker	*Chasmistes liorus*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Gray Wolf	*Canis lupus*	E Extirpated

DEFINITIONS

E

A taxon that is listed by the U.S. Fish and Wildlife Service as "endangered" with the probability of worldwide extinction.

E Experimental

An "endangered" taxon that is considered by the U.S. Fish and Wildlife Service to be "experimental and non-essential" in its designated use areas in Utah.

E, T, or C Extirpated

An "endangered," "threatened," or "candidate" taxon that is "extirpated" and considered by the U.S. Fish and Wildlife Service to no longer occur in Utah.

E or T Proposed

A taxon "proposed" to be listed as "endangered" or "threatened" by the U.S. Fish and Wildlife Service.

T

A taxon that is listed by the U.S. Fish and Wildlife Service as "threatened" with becoming endangered.

C

A taxon for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threats to justify it being a "candidate" for listing as endangered or threatened.

Note: Please contact the U.S. Fish and Wildlife Service (801-975-3330) for the purpose of consultation under the Endangered Species Act.

Utah's State Listed Species by County

Disclaimer: This list was compiled using known species occurrences and species observations from the Utah Natural Heritage Program's Biodiversity Tracking and Conservation System (BIOTICS); other species of special concern likely occur in Utah Counties. This list includes both current and historic records. (Last updated on July 1, 2008).

Beaver County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BIG FREE-TAILED BAT	NYCTINOMOPS MACROTIS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BURROWING OWL	ATHENE CUNICULARIA	SPC
DARK KANGAROO MOUSE	MICRODIPODOPS MEGACEPHALUS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
HAMLIN VALLEY PYRG	PYRGULOPSIS HAMLINENSIS	SPC
KIT FOX	VULPES MACROTIS	SPC
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	CS
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPOTTED BAT	EUDERMA MACULATUM	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PRAIRIE-DOG	CYNOMYS PARVIDENS	S-ESA
WESTERN TOAD	BUFO BOREAS	SPC

Box Elder County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BURROWING OWL	ATHENE CUNICULARIA	SPC
CALIFORNIA FLOATER	ANODONTA CALIFORNIENSIS	SPC
DESERET MOUNTAINSNAIL	OREOHELIX PERIPHERICA	SPC
FAT-WHORLED PONDSNAIL	STAGNICOLA BONNEVILLENSIS	S-ESA
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	SPC
GRAY WOLF	CANIS LUPUS	S-ESA
GREAT PLAINS TOAD	BUFO COGNATUS	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
JUNE SUCKER	CHASMISTES LIORUS	S-ESA

Box Elder County (con't)

Common Name	Scientific Name	State Status
KIT FOX	VULPES MACROTIS	SPC
LAHONTAN CUTTHROAT TROUT	ONCORHYNCHUS CLARKII HENSHAWI	S-ESA
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	CS
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
LYRATE MOUNTAINSNAIL	OREOHELIX HAYDENI	SPC
MOUNTAIN PLOVER	CHARADRIUS MONTANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
NORTHWEST BONNEVILLE PYRG	PYRGULOPSIS VARIEGATA	SPC
PREBLE'S SHREW	SOREX PREBLEI	SPC
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
SHARP-TAILED GROUSE	TYMPANUCHUS PHASIANELLUS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PHYSA	PHYSELLA UTAHENSIS	SPC
WESTERN PEARLSHELL	MARGARITIFERA FALCATA	SPC
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA
YELLOWSTONE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII BOUVIERI	SPC

Cache County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLACK SWIFT	CYPSELOIDES NIGER	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
CALIFORNIA FLOATER	ANODONTA CALIFORNIENSIS	SPC
CANADA LYNX	LYNX CANADENSIS	S-ESA
DESERET MOUNTAINSNAIL	OREOHELIX PERIPHERICA	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	SPC
GREAT PLAINS TOAD	BUFO COGNATUS	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
LYRATE MOUNTAINSNAIL	OREOHELIX HAYDENI	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
SHARP-TAILED GROUSE	TYMPANUCHUS PHASIANELLUS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WESTERN RED BAT	LASIURUS BLOSSEVILLII	SPC

Cache County (con't)

Common Name	Scientific Name	State Status
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Carbon County

Common Name	Scientific Name	State Status
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLACK-FOOTED FERRET	MUSTELA NIGRIPES	S-ESA
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BONYTAIL	GILA ELEGANS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
COLORADO PIKEMINNOW	PTYCHOCHEILUS LUCIUS	S-ESA
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
HUMPBACK CHUB	GILA CYPHA	S-ESA
KIT FOX	VULPES MACROTIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
RAZORBACK SUCKER	XYRAUCHEN TEXANUS	S-ESA
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SMOOTH GREENSNAKE	LIOCHLOROPHIS VERNALIS	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WESTERN RED BAT	LASIURUS BLOSSEVILLII	SPC
WESTERN TOAD	BUFO BOREAS	SPC
WHITE-TAILED PRAIRIE-DOG	CYNOMYS LEUCURUS	SPC

Daggett County

Common Name	Scientific Name	State Status
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BEAR LAKE SCULPIN	COTTUS EXTENSUS	SPC
BLACK-FOOTED FERRET	MUSTELA NIGRIPES	S-ESA
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
CANADA LYNX	LYNX CANADENSIS	S-ESA
COLORADO PIKEMINNOW	PTYCHOCHEILUS LUCIUS	S-ESA
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
HUMPBACK CHUB	GILA CYPHA	S-ESA
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
RAZORBACK SUCKER	XYRAUCHEN TEXANUS	S-ESA
ROUNDTAIL CHUB	GILA ROBUSTA	CS
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC

Daggett County (con't)

Common Name	Scientific Name	State Status
WESTERN TOAD	BUFO BOREAS	SPC
WHITE-TAILED PRAIRIE-DOG	CYNOMYS LEUCURUS	SPC

Davis County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BURROWING OWL	ATHENE CUNICULARIA	SPC
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	SPC
KIT FOX	VULPES MACROTIS	SPC
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	CS
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WESTERN PEARLSHELL	MARGARITIFERA FALCATA	SPC
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Duchesne County

Common Name	Scientific Name	State Status
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLACK SWIFT	CYPSELOIDES NIGER	SPC
BLACK-FOOTED FERRET	MUSTELA NIGRIPES	S-ESA
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
EUREKA MOUNTAINSNAIL	OREOHELIX EUREKENSIS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GRAY WOLF	CANIS LUPUS	S-ESA
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
KIT FOX	VULPES MACROTIS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
MOUNTAIN PLOVER	CHARADRUS MONTANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC

Duchesne County (con't)

Common Name	Scientific Name	State Status
SPOTTED BAT	EUDERMA MACULATUM	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WESTERN TOAD	BUFO BOREAS	SPC
WHITE-TAILED PRAIRIE-DOG	CYNOMYS LEUCURUS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Emery County

Common Name	Scientific Name	State Status
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLACK-FOOTED FERRET	MUSTELA NIGRIPES	S-ESA
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BONYTAIL	GILA ELEGANS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
CANADA LYNX	LYNX CANADENSIS	S-ESA
COLORADO PIKEMINNOW	PTYCHOCHEILUS LUCIUS	S-ESA
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
GREAT PLAINS TOAD	BUFO COGNATUS	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
HUMPBACK CHUB	GILA CYPHA	S-ESA
KIT FOX	VULPES MACROTIS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
RAZORBACK SUCKER	XYRAUCHEN TEXANUS	S-ESA
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPOTTED OWL	STRIX OCCIDENTALIS	S-ESA
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WESTERN TOAD	BUFO BOREAS	SPC
WHITE-TAILED PRAIRIE-DOG	CYNOMYS LEUCURUS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Garfield County

Common Name	Scientific Name	State Status
ALLEN'S BIG-EARED BAT	IDIONYCTERIS PHYLLOTIS	SPC
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
ARIZONA TOAD	BUFO MICROSCAPHUS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLACK CANYON PYRG	PYRGULOPSIS PLICATA	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BONYTAIL	GILA ELEGANS	S-ESA
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
COLORADO PIKEMINNOW	PTYCHOCHEILUS LUCIUS	S-ESA
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS

Garfield County (con't)

Common Name	Scientific Name	State Status
COMMON CHUCKWALLA	SAUROMALUS ATER	SPC
DESERT NIGHT LIZARD	XANTUSIA VIGILIS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
HUMPBACK CHUB	GILA CYPHA	S-ESA
KIT FOX	VULPES MACROTIS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
RAZORBACK SUCKER	XYRAUCHEN TEXANUS	S-ESA
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPOTTED BAT	EUDERMA MACULATUM	SPC
SPOTTED OWL	STRIX OCCIDENTALIS	S-ESA
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PHYSA	PHYSELLA UTAHENSIS	SPC
UTAH PRAIRIE-DOG	CYNOMYS PARVIDENS	S-ESA
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Grand County

Common Name	Scientific Name	State Status
ALLEN'S BIG-EARED BAT	IDIONYCTERIS PHYLLOTIS	SPC
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BIG FREE-TAILED BAT	NYCTINOMOPS MACROTIS	SPC
BLACK-FOOTED FERRET	MUSTELA NIGRIPES	S-ESA
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BONYTAIL	GILA ELEGANS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
COLORADO PIKEMINNOW	PTYCHOCHEILUS LUCIUS	S-ESA
CORNSNAKE	ELAPHE GUTTATA	SPC
EUREKA MOUNTAINSNAIL	OREOHELIX EUREKENSIS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREAT PLAINS TOAD	BUFO COGNATUS	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
GUNNISON SAGE-GROUSE	CENTROCERCUS MINIMUS	CS
GUNNISON'S PRAIRIE-DOG	CYNOMYS GUNNISONI	SPC
HUMPBACK CHUB	GILA CYPHA	S-ESA
KIT FOX	VULPES MACROTIS	SPC

Grand County (con't)

Common Name	Scientific Name	State Status
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
MOUNTAIN PLOVER	CHARADRIUS MONTANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
RAZORBACK SUCKER	XYRAUCHEN TEXANUS	S-ESA
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPOTTED BAT	EUDERMA MACULATUM	SPC
SPOTTED OWL	STRIX OCCIDENTALIS	S-ESA
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WHITE-TAILED PRAIRIE-DOG	CYNOMYS LEUCURUS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Iron County

Common Name	Scientific Name	State Status
ARIZONA TOAD	BUFO MICROSCAPHUS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLACK SWIFT	CYPSELOIDES NIGER	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BRIAN HEAD MOUNTAINSNAIL	OREOHELIX PARAWANENSIS	SPC
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
COMMON CHUCKWALLA	SAUROMALUS ATER	SPC
DARK KANGAROO MOUSE	MICRODIPODOPS MEGACEPHALUS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
KIT FOX	VULPES MACROTIS	SPC
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	CS
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPOTTED BAT	EUDERMA MACULATUM	SPC
SPOTTED OWL	STRIX OCCIDENTALIS	S-ESA
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PRAIRIE-DOG	CYNOMYS PARVIDENS	S-ESA
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Juab County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC

Juab County (con't)

Common Name	Scientific Name	State Status
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BURROWING OWL	ATHENE CUNICULARIA	SPC
CALIFORNIA FLOATER	ANODONTA CALIFORNIENSIS	SPC
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS
DARK KANGAROO MOUSE	MICRODIPODOPS MEGACEPHALUS	SPC
EUREKA MOUNTAINSNAIL	OREOHELIX EUREKENSIS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
KIT FOX	VULPES MACROTIS	SPC
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	CS
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PHYSA	PHYSELLA UTAHENSIS	SPC
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Kane County

Common Name	Scientific Name	State Status
ALLEN'S BIG-EARED BAT	IDIONYCTERIS PHYLLOTIS	SPC
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
ARIZONA TOAD	BUFO MICROSCAPHUS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BIG FREE-TAILED BAT	NYCTINOMOPS MACROTIS	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BONYTAIL	GILA ELEGANS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
COMMON CHUCKWALLA	SAUROMALUS ATER	SPC
DESERT NIGHT LIZARD	XANTUSIA VIGILIS	SPC
DESERT SUCKER	CATOSTOMUS CLARKII	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREAT PLAINS TOAD	BUFO COGNATUS	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
HUMPBACK CHUB	GILA CYPHA	S-ESA
KANAB AMBERSNAIL	OXYLOMA KANABENSE	S-ESA
KIT FOX	VULPES MACROTIS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC

Kane County (con't)

Common Name	Scientific Name	State Status
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPOTTED BAT	EUDERMA MACULATUM	SPC
SPOTTED OWL	STRIX OCCIDENTALIS	S-ESA
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PRAIRIE-DOG	CYNOMYS PARVIDENS	S-ESA
VIRGIN SPINEDACE	LEPIDOMEDA MOLLISPINIS	CS
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Millard County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BIFID DUCT PYRG	PYRGULOPSIS PECULIARIS	SPC
BIG FREE-TAILED BAT	NYCTINOMOPS MACROTIS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BURROWING OWL	ATHENE CUNICULARIA	SPC
CALIFORNIA FLOATER	ANODONTA CALIFORNIENSIS	SPC
CLOAKED PHYSA	PHYSA MEGALOCHLAMYS	SPC
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS
DARK KANGAROO MOUSE	MICRODIPODOPS MEGACEPHALUS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
KIT FOX	VULPES MACROTIS	SPC
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	CS
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
LONGITUDINAL GLAND PYRG	PYRGULOPSIS ANGUINA	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
SUB-GLOBOSE SNAKE PYRG	PYRGULOPSIS SAXATILIS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PRAIRIE-DOG	CYNOMYS PARVIDENS	S-ESA
WESTERN TOAD	BUFO BOREAS	SPC

Morgan County

Common Name	Scientific Name	State Status
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS

Morgan County (con't)

Common Name	Scientific Name	State Status
DESERET MOUNTAINSNAIL	OREOHELIX PERIPHERICA	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LYRATE MOUNTAINSNAIL	OREOHELIX HAYDENI	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
SHARP-TAILED GROUSE	TYMPANUCHUS PHASIANELLUS	SPC
WESTERN PEARLSHELL	MARGARITIFERA FALCATA	SPC
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Piute County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
CALIFORNIA FLOATER	ANODONTA CALIFORNIENSIS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
OTTER CREEK PYRG	PYRGULOPSIS FUSCA	SPC
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PHYSA	PHYSELLA UTAHENSIS	SPC
UTAH PRAIRIE-DOG	CYNOMYS PARVIDENS	S-ESA
WESTERN TOAD	BUFO BOREAS	SPC

Rich County

Common Name	Scientific Name	State Status
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BEAR LAKE SCULPIN	COTTUS EXTENSUS	SPC
BEAR LAKE SPRINGSNAIL	PYRGULOPSIS PILSBRYANA	SPC
BEAR LAKE WHITEFISH	PROSOPIUM ABYSSICOLA	SPC
BLACK-FOOTED FERRET	MUSTELA NIGRIPES	S-ESA
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CISCO	PROSOPIUM GEMMIFER	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BONNEVILLE WHITEFISH	PROSOPIUM SPILONOTUS	SPC
BURROWING OWL	ATHENE CUNICULARIA	SPC
CALIFORNIA FLOATER	ANODONTA CALIFORNIENSIS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC

Rich County (con't)

Common Name	Scientific Name	State Status
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LYRATE MOUNTAINSNAIL	OREOHELIX HAYDENI	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
WESTERN PEARLSHELL	MARGARITIFERA FALCATA	SPC
WESTERN TOAD	BUFO BOREAS	SPC
WHITE-TAILED PRAIRIE-DOG	CYNOMYS LEUCURUS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Salt Lake County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLACK SWIFT	CYPSELOIDES NIGER	SPC
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BURROWING OWL	ATHENE CUNICULARIA	SPC
CALIFORNIA FLOATER	ANODONTA CALIFORNIENSIS	SPC
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
JUNE SUCKER	CHASMISTES LIORUS	S-ESA
KIT FOX	VULPES MACROTIS	SPC
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	CS
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
LYRATE MOUNTAINSNAIL	OREOHELIX HAYDENI	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC
SPOTTED BAT	EUDERMA MACULATUM	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WESTERN PEARLSHELL	MARGARITIFERA FALCATA	SPC
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

San Juan County

Common Name	Scientific Name	State Status
ALLEN'S BIG-EARED BAT	IDIONYCTERIS PHYLLOTIS	SPC
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
ARIZONA TOAD	BUFO MICROSCAPHUS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BIG FREE-TAILED BAT	NYCTINOMOPS MACROTIS	SPC
BLACK-FOOTED FERRET	MUSTELA NIGRIPES	S-ESA
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS

San Juan County (con't)

Common Name	Scientific Name	State Status
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONYTAIL	GILA ELEGANS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
COLORADO PIKEMINNOW	PTYCHOCHEILUS LUCIUS	S-ESA
COMMON CHUCKWALLA	SAUROMALUS ATER	SPC
DESERT NIGHT LIZARD	XANTUSIA VIGILIS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GRAY WOLF	CANIS LUPUS	S-ESA
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
GUNNISON SAGE-GROUSE	CENTROCERCUS MINIMUS	CS
GUNNISON'S PRAIRIE-DOG	CYNOMYS GUNNISONI	SPC
HUMPBACK CHUB	GILA CYPHA	S-ESA
KIT FOX	VULPES MACROTIS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENUIS AMERICANUS	SPC
MOGOLLON VOLE	MICROTUS MOGOLLONENSIS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
RAZORBACK SUCKER	XYRAUCHEN TEXANUS	S-ESA
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SILKY POCKET MOUSE	PEROGNATHUS FLAVUS	SPC
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPOTTED BAT	EUDERMA MACULATUM	SPC
SPOTTED OWL	STRIX OCCIDENTALIS	S-ESA
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
YAVAPAI MOUNTAINSNAIL	OREOHELIX YAVAPAI	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Sanpete County

Common Name	Scientific Name	State Status
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
CANADA LYNX	LYNX CANADENSIS	S-ESA
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
KIT FOX	VULPES MACROTIS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NINEMILE PYRG	PYRGULOPSIS NONARIA	SPC

Sanpete County (con't)

Common Name	Scientific Name	State Status
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
SOUTHERN BONNEVILLE SPRINGSNAIL	PYRGULOPSIS TRANSVERSA	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PRAIRIE-DOG	CYNOMYS PARVIDENS	S-ESA
WESTERN TOAD	BUFO BOREAS	SPC

Sevier County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BIG FREE-TAILED BAT	NYCTINOMOPS MACROTIS	SPC
BLACK SWIFT	CYPSELOIDES NIGER	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
CANADA LYNX	LYNX CANADENSIS	S-ESA
CARINATE GLENWOOD PYRG	PYRGULOPSIS INOPINATA	SPC
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
KIT FOX	VULPES MACROTIS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
OTTER CREEK PYRG	PYRGULOPSIS FUSCA	SPC
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SMOOTH GLENWOOD PYRG	PYRGULOPSIS CHAMBERLINI	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PRAIRIE-DOG	CYNOMYS PARVIDENS	S-ESA
WESTERN TOAD	BUFO BOREAS	SPC

Summit County

Common Name	Scientific Name	State Status
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
CANADA LYNX	LYNX CANADENSIS	S-ESA
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS

Summit County (con't)

Common Name	Scientific Name	State Status
DESERET MOUNTAINSNAIL	OREOHELIX PERIPHERICA	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
NORTHERN LEATHERSIDE CHUB	LEPIDOMEDA COPEI	SPC
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
WESTERN PEARLSHELL	MARGARITIFERA FALCATA	SPC
WESTERN TOAD	BUFO BOREAS	SPC
WHITE-TAILED PRAIRIE-DOG	CYNOMYS LEUCURUS	SPC

Tooele County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BONYTAIL	GILA ELEGANS	LE
BURROWING OWL	ATHENE CUNICULARIA	SPC
CALIFORNIA FLOATER	ANODONTA CALIFORNIENSIS	SPC
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS
DARK KANGAROO MOUSE	MICRODIPODOPS MEGACEPHALUS	SPC
EUREKA MOUNTAINSNAIL	OREOHELIX EUREKENSIS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
KIT FOX	VULPES MACROTIS	SPC
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	CS
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
LYRATE MOUNTAINSNAIL	OREOHELIX HAYDENI	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
NORTHWEST BONNEVILLE PYRG	PYRGULOPSIS VARIEGATA	SPC
PREBLE'S SHREW	SOREX PREBLEI	SPC
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SOUTHERN BONNEVILLE SPRINGSNAIL	PYRGULOPSIS TRANSVERSA	SPC
SOUTHERN TIGHTCOIL	OGARIDISCUS SUBRUPICOLA	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PHYSA	PHYSELLA UTAHENSIS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Uintah County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BIG FREE-TAILED BAT	NYCTINOMOPS MACROTIS	SPC

Uintah County (con't)

Common Name	Scientific Name	State Status
BLACK-FOOTED FERRET	MUSTELA NIGRIPES	S-ESA
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONYTAIL	GILA ELEGANS	S-ESA
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
CANADA LYNX	LYNX CANADENSIS	S-ESA
COLORADO PIKEMINNOW	PTYCHOCHEILUS LUCIUS	S-ESA
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
CORNSNAKE	ELAPHE GUTTATA	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
HUMPBACK CHUB	GILA CYPHA	S-ESA
KIT FOX	VULPES MACROTIS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
MOUNTAIN PLOVER	CHARADRIUS MONTANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
RAZORBACK SUCKER	XYRAUCHEN TEXANUS	S-ESA
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPOTTED BAT	EUDERMA MACULATUM	SPC
SPOTTED OWL	STRIX OCCIDENTALIS	S-ESA
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WHITE-TAILED PRAIRIE-DOG	CYNOMYS LEUCURUS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Utah County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLACK SWIFT	CYPSELOIDES NIGER	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
CALIFORNIA FLOATER	ANODONTA CALIFORNIENSIS	SPC
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS
DESERT VALVATA	VALVATA UTAHENSIS	S-ESA
EUREKA MOUNTAINSNAIL	OREOHELIX EUREKENSIS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC

Utah County (con't)

Common Name	Scientific Name	State Status
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
JUNE SUCKER	CHASMISTES LIORUS	S-ESA
KIT FOX	VULPES MACROTIS	SPC
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	CS
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC
SOUTHERN BONNEVILLE SPRINGSNAIL	PYRGULOPSIS TRANSVERSA	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
SPOTTED BAT	EUDERMA MACULATUM	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PHYSA	PHYSELLA UTAHENSIS	SPC
WESTERN RED BAT	LASIURUS BLOSSEVILLII	SPC
WESTERN TOAD	BUFO BOREAS	SPC
WHITE-TAILED PRAIRIE-DOG	CYNOMYS LEUCURUS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Wasatch County

Common Name	Scientific Name	State Status
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLACK SWIFT	CYPSELOIDES NIGER	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
CANADA LYNX	LYNX CANADENSIS	S-ESA
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Washington County

Common Name	Scientific Name	State Status
ALLEN'S BIG-EARED BAT	IDIONYCTERIS PHYLLOTIS	SPC
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
ARIZONA TOAD	BUFO MICROSCAPHUS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BIG FREE-TAILED BAT	NYCTINOMOPS MACROTIS	SPC
BLACK SWIFT	CYPSELOIDES NIGER	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
COMMON CHUCKWALLA	SAUROMALUS ATER	SPC
DESERT IGUANA	DIPSOSAURUS DORSALIS	SPC
DESERT NIGHT LIZARD	XANTUSIA VIGILIS	SPC
DESERT SPRINGSNAIL	PYRGULOPSIS DESERTA	SPC
DESERT SUCKER	CATOSTOMUS CLARKII	SPC
DESERT TORTOISE	GOPHERUS AGASSIZII	S-ESA
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GILA MONSTER	HELODERMA SUSPECTUM	SPC
GRAY WOLF	CANIS LUPUS	S-ESA
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
KIT FOX	VULPES MACROTIS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
MOJAVE RATTLESNAKE	CROTALUS SCUTULATUS	SPC
MOUNTAIN PLOVER	CHARADRIUS MONTANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
RELICT LEOPARD FROG	RANA ONCA	S-ESA
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SHORT-EATRED OWL	ASIO FLAMMEUS	SPC
SIDEWINDER	CROTALUS CERASTES	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPECKLED RATTLESNAKE	CROTALUS MITCHELLII	SPC
SPOTTED BAT	EUDERMA MACULATUM	SPC
SPOTTED OWL	STRIX OCCIDENTALIS	S-ESA
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
VIRGIN CHUB	GILA SEMINUDA	S-ESA
VIRGIN SPINEDACE	LEPIDOMEDA MOLLISPINIS	CS
WESTERN BANDED GECKO	COLEONYX VARIEGATUS	SPC
WESTERN RED BAT	LASIURUS BLOSSEVILLII	SPC
WESTERN THREADSNAKE	LEPTOTYPHLOPS HUMILIS	SPC
WESTERN TOAD	BUFO BOREAS	SPC
WET-ROCK PHYSA	PHYSELLA ZIONIS	SPC
WOUNDFIN	PLAGOPTERUS ARGENTISSIMUS	S-ESA

Washington County (con't)

Common Name	Scientific Name	State Status
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA
ZEBRA-TAILED LIZARD	CALLISAURUS DRACONOIDES	SPC

Wayne County

Common Name	Scientific Name	State Status
ALLEN'S BIG-EARED BAT	IDIONYCTERIS PHYLLOTIS	SPC
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BIG FREE-TAILED BAT	NYCTINOMOPS MACROTIS	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONYTAIL	GILA ELEGANS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
COLORADO PIKEMINNOW	PTYCHOCHEILUS LUCIUS	S-ESA
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
HUMPBACK CHUB	GILA CYPHA	S-ESA
KIT FOX	VULPES MACROTIS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
RAZORBACK SUCKER	XYRAUCHEN TEXANUS	S-ESA
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPOTTED BAT	EUDERMA MACULATUM	SPC
SPOTTED OWL	STRIX OCCIDENTALIS	S-ESA
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PRAIRIE-DOG	CYNOMYS PARVIDENS	S-ESA
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Weber County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BURROWING OWL	ATHENE CUNICULARIA	SPC
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS
DESERET MOUNTAINSNAIL	OREOHELIX PERIPHERICA	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC

Weber County (con't)

Common Name	Scientific Name	State Status
GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	SPC
GRAY WOLF	CANIS LUPUS	S-ESA
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
JUNE SUCKER	CHASMISTES LIORUS	S-ESA
KIT FOX	VULPES MACROTIS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
LYRATE MOUNTAINSNAIL	OREOHELIX HAYDENI	SPC
MOUNTAIN PLOVER	CHARADRIUS MONTANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
SHARP-TAILED GROUSE	TYMPANUCHUS PHASIANELLUS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WASATCH MOUNTAINSNAIL	OREOHELIX PERIPHERICA WASATCHENSIS	S-ESA
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Key to State Status Field

Symbol	Definition
S-ESA	Federally-listed or candidate species under the Endangered Species Act.
SPC	Wildlife species of concern.
CS	Species receiving special management under a Conservation Agreement in order to preclude the need for Federal listing.

Appendix E
Other Permits

State of Utah

Department of Environmental Quality

Richard W. Sprott
Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

JON M. HUNTSMAN, JR.
Governor

GARY HERBERT
Lieutenant Governor

August 5, 2008

DAQC-884-08
Site ID 10996 (B1)

Bruce Dallin
W. W. Clyde and Company
P. O. Box 350
Springville, Utah 84663

Dear Mr. Dallin:

Re: W. W. Clyde and Company - Temporary Relocation/Operation, Notice of Intent - 800 KW Generator - JCI 77-1028 Three Deck Screen - JCI 77-1029 Three Deck Screen - Remco 76-1001 VSI Crusher - Utah County

Your Notice of Intent dated July 16, 2008, to relocate your 800 KW generator, JCI 77-1028 three deck screen, JCI 77-1029 three deck screen and Remco 76-1001 VSI crusher to the temporary project located south of the access road off the Scofield Reservoir turnoff, Utah County, was received by the Utah Division of Air Quality (Division) on July 21, 2008, and has been reviewed.

Approval is granted to relocate and operate this equipment at the new location for a period not to exceed 180 operational days. As per Utah Administrative Code (UAC) R307-401-7, the operation of equipment at this temporary site may be for up to 180 working days in any calendar year not to exceed 365 consecutive days, starting from the initial relocation date. The operational days per site cannot be extended beyond the stipulated 365 consecutive day period. Approval is subject to the conditions of the dust control plan submitted for this location and the current Approval Order (AO) DAQE-AN0996008-06 dated May 15, 2006. Hours of operation shall be held to 13 hours per each 24-hour day. The maximum production rate shall be held to 400 tons per hour. Emissions for this project have been estimated at the following:

Pollutant	gram/sec	lbs/hr	lbs/24 hr	tons/yr
PM_{10}	2.06	16.36	163.57	12.76
SO_2	0.63	4.99	49.88	3.89
NOx	4.20	33.33	333.34	26.00
CO	1.11	8.84	88.40	6.90
VOC	0.18	1.39	13.91	1.08

The owner/operator shall maintain records of the actual operation hours of the above referenced equipment at this relocation site and have the ability to submit the information to the Division upon the request of representatives of the Executive Secretary. Please make certain that the plant operator is aware of all the location specific requirements for this site and the conditions of the aforementioned AO.

Utah Division of Water Quality Storm Water Permits and regulations may apply to this temporary project. Please refer to http://www.waterquality.utah.gov/UPDES/stormwater for additional information.

This approval for relocation in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including the UAC.

If you have any questions regarding this relocation authorization or the temporary relocation process please contact Susan Weisenberg at (801) 536-4045.

Sincerely,

Rusty Ruby, Manager
Air Standards Branch

RR:SPW:lgt

Enclosure: Submitted Temporary Relocation Form

cc: Terry Beebe, Utah County Health Department

CK# 22222
Paid 500.00

Utah Division of Air Quality

Notice of Temporary Relocation of Portable Equipment

Form 15a

1. Contact Name: Bruce Dallin
2. Company Name: W.W. Clyde & Co.
   Mailing Address: P.O. Box 350
   city, state, zip: Springville, Utah 84663
   phone: (801) 802-6800

Proposed New Relocation Site:

3. Site address and brief direction to get to the site: Take US-6 South to the Scofield Reservoir turnoff, turn Right to go to Scofield and travel approximately 500' and turn Left on to a dirt road, travel South approximately one mile to the pit. Long. 111.02454, Lat. 39.84901

4. Closest City: N/A 5. County: Utah

6. Approximate distances from the center of plant location to:
   Closest House/Business: 3/4 mile
   National Park N/A which national park N/A
   Other air pollutioin sources (and their names) within 1.5 miles from the plant as of today: (include aggregate plants, asphalt plants, concrete batch plants, and other construction sources)

W. W. Clyde & Co. US-6 reconstruct activities

Distance to nearest property boundary 1/2 mile

7. Attach a site diagram to this form showing the dimensions, general pit location and the equipment location on site to scale (include locations of items filled out in 4. And 6.).
8. Total hours of operation per 24 hour period
   starting at 7:00 AM ending at 7:00 PM
9. Maximum hourly production rate for project 400 tph

10.a. Expected Startup Date: August 4, 2008	10.b. Expected Completion Date: July 31, 2009

11. Existing Approval Orders(s) under which the equipment will operate at the proposed site (attach a copy of the AO(s) to this form): (e.g., BAQE-XXXX-XX or DAQE-XXXX-XX)

DAQE-AN0996008-06

12. All equipment to be operated at the proposed site

Equipment Type:	VSI Crusher	Equipment Type:	
Make/Model	Remco DD-VSC 95-374	Make/Model	
Serial or ID#	76-1001	Serial or ID#	
Manufactured Date	Jun-05	Manufactured Date	
Design Capacity	400 TPH	Design Capacity	
Equipment Type:	3 Deck Screen	Equipment Type:	
Make/Model	JCI	Make/Model	
Serial or ID#	77-1029	Serial or ID#	
Manufactured Date	2003	Manufactured Date	
Design Capacity	7' x 20'	Design Capacity	
Equipment Type:	3 Deck Screen	Equipment Type:	
Make/Model	JCI	Make/Model	
Serial or ID#	77-1028	Serial or ID#	
Manufactured Date	2000	Manufactured Date	
Design Capacity	7' x 20'	Design Capacity	
Equipment Type:	Generator	Equipment Type:	
Make/Model	Caterpillar D-399	Make/Model	
Serial or ID#	62-1021	Serial or ID#	
Manufactured Date	1979	Manufactured Date	
Design Capacity	800 KW	Design Capacity	
Equipment Type:		Equipment Type:	
Make/Model		Make/Model	
Serial or ID#		Serial or ID#	
Manufactured Date		Manufactured Date	
Design Capacity		Design Capacity	

Equipment List will be used by Compliance Inspectors on site visits.

The kind of equipment to list: crushers, screens, generators, asphalt batch plants, and concrete batch plants, incinerators, etc. (include any grandfathered* equipment).

Various associated support equipment such as conveyors, loaders, dozers, water pumps, water trucks, haul trucks, and service trucks sdo not need to be listed individually

*Grandfathered equipment is that equipment which existed or operated in Utah prior to November 29, 1969, and did not require an Approval Order. Modifications made to the equipment, replacement of equipment or relocation of equipment after November 29, 1969, invalidates the grandfathered status of the equipment, and such equipment will need to be approved (listed in valid Approval Order) prior to relocation.

13. Previous site location for this equipment: Fruitland, Duchesne County, UT

Operation dates at prior location: Startup: 5/18/2008 Completion: 7/13

14. Previous (within the past 12 months from the proposed date of relocation) relocations to the state for any equipment including equipment listed in this form, owned by the same company: (A complete list is required. Attach additional sheets if necessary)

Equipment	Startup	Completion:
N/A		
Equipment	Startup / /	Completion: / /

14. Fugitive Dust Control Plan (FDCP)

Instructions: All sources are required to control fugitive dust from the processes listed below. For processes covered in an Approval Order (AO), the source may be required to adopt additional control measures beyond that stated in the AO based on site-specific conditions. Fill in "N/A" if the process is not applicable to your temporary relocation. For proposals to operate the process under the controls stated in the AO, fill in the applicable "AO number" and state additional fugitive dust control measures that are proposed. If the process listed is applicable but is not covered in the AO, state the proposed fugitive dust control measures (attach additional sheets as necessary). The Division of Air Quality (DAQ) may require the sources to modify the proposed FDCP prior to issuing the Temporary Relocation Approval (TRA) letter. The FDCP for each location must address the following, if applicable:

1. Material storage	#26
2. Material Handling	#17,24
3. Material Processing	#28,29,30
4. Road ways and Yard areas	#22
5. Loading and dumping materials	#24
6. Hauling materials	#13
7. Drilling, blasting, and pushing operations	N/A
8. Clearing and leveling	N/A
9. Earth moving and excavation	#24
10. Tailing piles and ponds	N/A
11. Exposed surfaces	#22
12. Surface mining operations	#13,23,24,26

12. Owner/ Operator Representative

Signature	Date
Evan Dillon	7/16/2008

Instructions

Notices of temporary relocation should be submitted at least two weeks in advance of the relocation of equipment. All temporary relocations will be restricted to consecutive 180-day period of operation. All equipment that the source plans to relocate must be listed in a valid Approval Order from the Division of Air Quality (DAQ) prior to submitting this form. Please attach a copy of the relevant Approval Order(s), Which approves the equipment in item 10 of this form. Call the DAQ at (801) 536-4000 if you have problems or questions when completing this form. We will be glad to help.

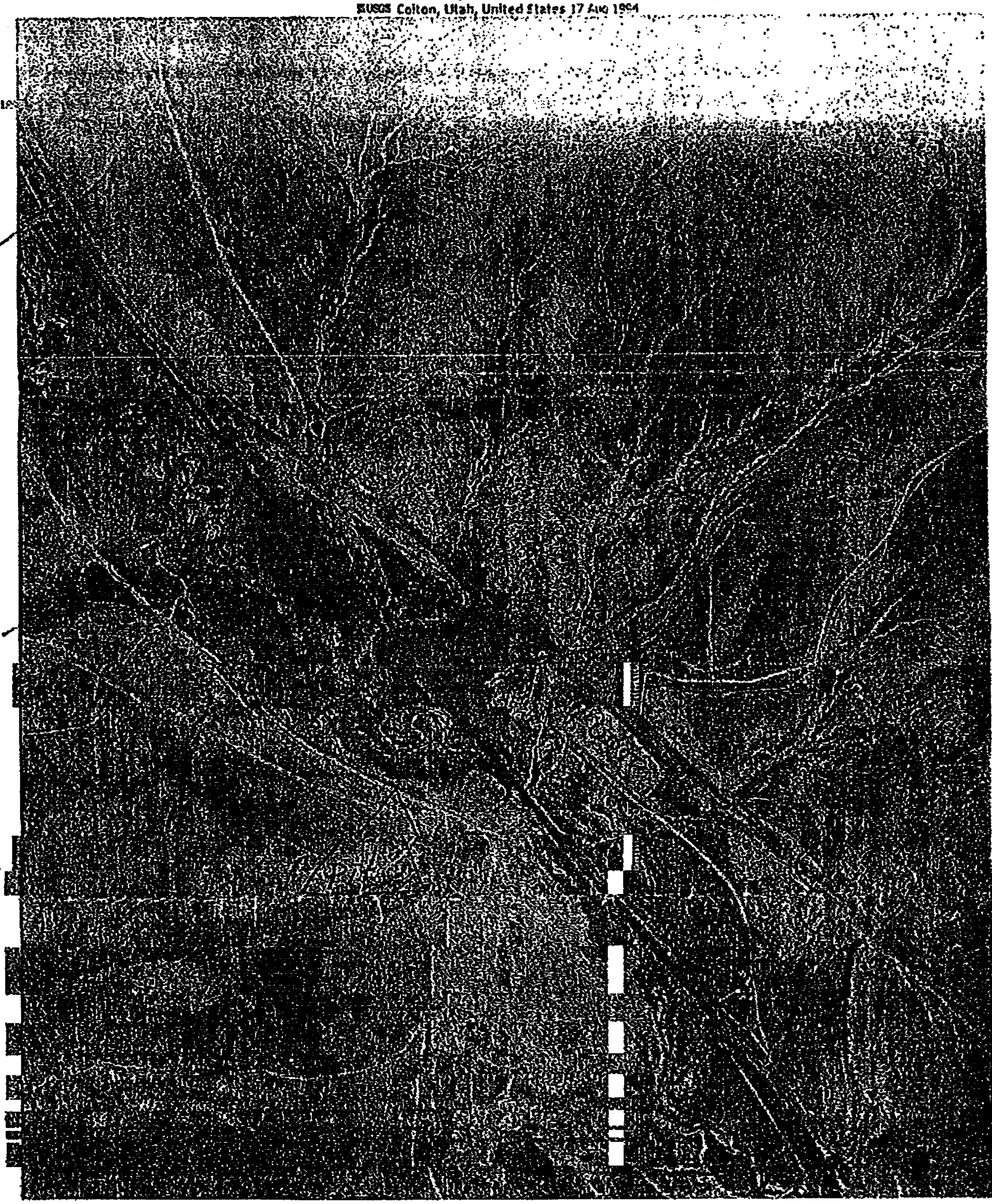
For Sources that have Consolidated Generic Approval Order

To obtain a Consolidated Generic Approval Order Contact the NSR Section at (801) 536-4000

Enhanced Emissions Control Measures (EECMs): Enhanced control measures are those emission control measures that the source may be required to adopt during temporary relocation to a site. DAQ may require the source to adopt EECMs while operating in certain locations where particulate emissions are of more concern (e.g. Salt Lake, Utah and Weber Counties, which are non-attainment areas for PM10). The source may volunteer to adopt EECMs

Send To Printer   Back To TerraServer   Change to 8.5x11 Print Size   Show Grid Lines   Change to Landscape

USGS Colton, Utah, United States 17 Aug 1994



State of Utah
JON M. HUNTSMAN, JR.
Governor

GARY HERBERT
Lieutenant Governor

Department of
Environmental Quality

Richard W. Sprott
Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

W. W. Clyde & Co
#: 01108-90
Date Received: SEP 26 2008
CC:

September 22, 2008

DAQC-1120-08
Site ID 10996 (B1)

Bruce Dallin
W. W. Clyde and Company
P. O. Box 350
Springville, Utah 84663

Dear Mr. Dallin:

Re: W. W. Clyde and Company – Correction to Temporary Relocation/Operation – Addition of Dillman 500 Ton Per Hour Asphalt Plant and Caterpillar 900 KW Generator - Utah County

Your request to add a Dillman 500 ton per hour asphalt plant, and Caterpillar 900 KW generator, to the temporary project located south of the access road off the Scofield Reservoir turnoff, Utah County, was received by the Utah Division of Air Quality (Division) and has been reviewed.

It is understood that the asphalt plant is anticipated to operate from September 10, 2008, through November 15, 2008.

Approval for the asphalt plant is subject to the May 15, 2006 AN0996008-06 Approval Order (AO). Hours of operation for the plant shall be held to 13 hours per day. The production rate shall be held to the 500 ton per hour design capacity. Emissions for this plant have been estimated at the following:

Pollutant	gram/sec	lbs/hr	lbs/24 hr	tons/yr
PM_{10}	2.485	19.724	197.243	15.38
SO_2	0.028	0.219	2.188	0.17
NOx	2.497	19.817	198.173	15.46
CO	2.463	19.550	195.500	15.25
VOC	1.794	14.240	142.404	11.11

Approval for the aggregate portion of this project shall remain the same as in the DAQC-884-08 relocation and can not exceed a total of 180 operation days. Approval is subject to the conditions of the dust control plan submitted for this location and the current AO DAQE-AN0996008-06 dated May 15, 2006. Hours of aggregate operation shall be held to 13 hours per each 24-hour day. The maximum production rate shall be held to 400 tons per hour. Emissions for the aggregate portion of the project have been estimated at the following:

JON M HUNTSMAN JR
Governor

GARY HERBERT
Lieutenant Governor

State of Utah

Department of
Environmental Quality

Richard W Sprott
Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

March 18, 2008

DAQC-318-08
Site ID 10996(B1)

Bruce Dallin
W. W. Clyde
P. O. Box 350
Springville, Utah 84663

Dear Mr Dallin:

Re: W. W. Clyde - Temporary Relocation/Operation – Notice of Intent, JCI 77-1031 Three Deck Screen - 77-1030 BiviTec Screen - Remco 76-1001 Vertical Shaft Impactor - JCI 77-1029 Three Deck Screen - JCI 77-1028 Three Deck Screen - Cedarapids 74-1004 Three Deck Screen - Cedarapids 76-1004 Cone Crusher - Koberg-Pioneer 76-1026 Jaw Crusher - Caterpillar 1750 KW Generator - Utah County

Your Notice of Intent dated March 4, 2008, to relocate your JCI 77-1031 three deck screen, 77-1030 BiviTec screen, Remco 76-1001 vertical shaft impactor, JCI 77-1029 three deck screen, JCI 77-1028 three deck screen, Cedarapids 74-1004 three deck screen, Cedarapids 76-1004 cone crusher, Koberg-Pioneer 76-1026 jaw crusher, and Caterpillar 1750 KW generator, to the temporary project for the Bristlecone Rock Pit, located at Section 30, Township 11 South, Range 9 East, Colton, Utah, was received by the Utah Division of Air Quality (Division) on March 7, 2008, and has been reviewed.

Approval is granted to relocate and operate this equipment at the new location for a period not to exceed 180 operational days. As per Utah Administrative Code R307-401-7, the operation of equipment at this temporary site may be for up to 180 working days in any calendar year not to exceed 365 consecutive days, starting from the initial relocation date. The operational days per site cannot be extended beyond the stipulated 365 consecutive day period Approval is subject to the conditions of the dust control plan submitted for this location and the current Approval Order (AO) DAQE-AN0996008-06 dated May 15, 2006.

Your request for a 24 hour operation is granted due to the three mile distance to the nearest point of impact and the air shed conditions of this project. The request is granted with the provision that the opacity limits for this operation specified in Condition 15 of your AO is instead restricted to 10% opacity for all emission points. The maximum production rate shall be held to 500 tons per hour. Emissions for this project have been estimated at the following:

07108-101
Rec'd 11.3.08

PROPERTY LEASE AGREEMENT

THIS AGREEMENT entered into this 15th day October 2008 by and between **John R Woolsey** hereinafter referred to as "Owner" and W.W. Clyde & Co, a Utah Corporation within the State of Utah, hereinafter referred to as "W.W. Clyde."

WITNESSETH

That for and in consideration of payments made to Owner and the other terms and conditions set forth herein, Owner hereby agrees to lease to W.W. Clyde the Property owned by Owner and hereinafter described, and W.W. Clyde hereby accepts the terms of this Agreement and the parties mutually agree to the following terms and conditions:

1. Description of Property: The Property which is to be leased by Owner to W.W. Clyde hereinafter referred to as the "Property" is situated in Utah County, Utah and described as follows:

Parcel 1:

The north 2/3 of the Southwest Quarter of the Southwest Quarter of Section 23, Township 11 South, Range 8 East, Salt Lake Base and Meridian; Less sold to the state road being the north 880 feet by 1320 feet of said Southwest Quarter

Parcel 2:

The south 1/3 of the Southwest Quarter of the Southwest Quarter of Section 23, Township 11 South, Range 8 East, Salt Lake Base and Meridian, Less sold to the State Road, if any.

Parcel 3:

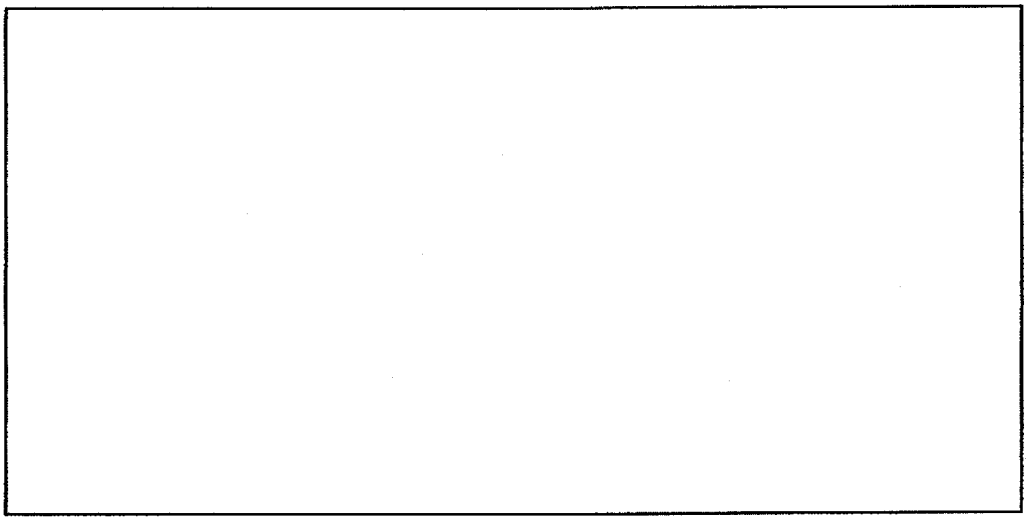
The Northwest Quarter of the Northwest Quarter of Section 26, Township 11 South, Range 8 East, Salt Lake Base and Meridian.

2. Quiet Possession: Owner covenants and warrants that it has full right and lawful authority to enter into this Agreement for the full term hereof and for all extensions herein provided, and that Owner is lawfully seized of the entire Property hereby leased and has good title thereto free and clear of all tenancies, liens and encumbrances which would effect in any way the terms and uses of the Property by W.W. Clyde as provided in this Agreement. Owner further covenants and warrants that if W.W. Clyde shall perform its obligations as set forth herein, then W.W. Clyde shall have and enjoy the quiet and undisturbed possession of the entire Property for the uses and purposes herein described for the full term of this Agreement and any renewal or extension thereof.

3. Purpose of Agreement: The purpose of this Lease is to permit W.W. Clyde to conduct mining activities upon and remove from the Leased Premises, limestone and other rock products, sand and gravel, aggregates and earthen materials for the US-6 Whiteriver to MP 218 Reconstruction Project, and other projects as they become available during the lease periods. It is also understood and agreed that W.W. Clyde shall have the right to operate said activities year round, and up to 24 hours per day. W.W. Clyde shall have the right to use any method or equipment deemed necessary for the execution of its work. W.W. Clyde shall also have full access to the property during the term of the lease for purposes of its business.

4. Term of Agreement: This Agreement shall be for a term of five (5) years beginning October 20th, 2008, and ending October 20th, 2013

5. Renewal: W.W. Clyde shall have the first right and option to renew this Agreement for an additional term of five (5) years by giving Owner written notice of its intention to exercise said option at least thirty (30) days prior to the expiration of the initial term.



7. Quantities: All quantities for materials removed the Property will be calculated in tons using truck or belt scales and weight tickets. W.W. Clyde shall be responsible for providing said scale and weight tickets. Scale certification as well as copies of the weight tickets for a pay period will be provided to the owner by W.W. Clyde upon request.

8. Survey: The boundaries of the Property shall be clearly marked with T-post style fence posts in conjunction with a survey provided for at the expense of W.W. Clyde.

9. Permits: W.W. Clyde shall be responsible to obtain all permits and clearances from the Utah Department of Transportation and the Utah Division of Oil, Gas and Mining associated with the mining and materials processing on the Property. A copy of the completed and approved DOGM permit is hereby attached to this contract by reference, and will be provided to the owner within (30) days for Owners reference.

10. Taxes and Encumbrances: Owner agrees to pay and discharge all taxes, assessments (either general or special) and any other obligations which are or may become a lien upon or levied against or encumber the Property as they become due and payable during the term

of this Agreement. W.W. Clyde agrees to pay all personal property taxes upon any equipment owned by W.W. Clyde on the Property.

11. Recording: Either party shall have the right to record this Agreement upon the property with the county recorder of the county within which the Property is situated.

12. Right of Termination: W.W. Clyde shall have the exclusive right to terminate this Lease at any time and be relieved of any further obligation except the payment of any outstanding royalties due and reclamation of disturbed areas.

13. Notice: Any notice required to be given to either party pursuant to this Agreement shall be deemed to have been served when such notice has been mailed by registered mail to said party addressed to the last known place of business or residence of the party involved.

14. Binding Agreement: This Agreement shall be binding upon and inure to the benefit of the parties hereto, including their successors and assigns. This Agreement shall not be assigned without prior written consent of each party.

15. Exclusivity: This agreement for the property listed above shall serve as an exclusive agreement between the Owner and W.W. Clyde for the limestone, sands, gravels and earthen materials within the property described in Section 1. Owner agrees that no further lease or access can be granted to a third party on this property for this purpose or one that would interfere with W.W. Clyde's intended use and operations, without the express written consent of W.W. Clyde. If Owner wishes to propose an alternate use for the property(s), not interfering with W.W. Clyde's use and operations, W.W. Clyde agrees to reasonably consider and review Owner's proposal in good faith.

16. Execution: This Lease has been prepared and is submitted for signature by the duly authorized officers of W.W. Clyde with the understanding that it shall not bind the W.W. Clyde or LESSOR until duly executed by both parties.

17. Indemnification: W.W. Clyde will hold the Owner harmless against any and all activities associated with this lease. W.W. Clyde will be provided a certificate of liability insurance for the duration of this lease naming the Owner as an additionally insured.

18. This Agreement shall be governed by and construed in accordance with the internal laws of the State of Utah.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first set forth above.

OWNER	W.W. Clyde & Company, Inc.
By: John R. Woolsey	By: David U Hales
Title:	Title: Exec Vice President
Date: 15 OCTOBER 2008	Date: 3 Nov 2008

07108-109 inc.
Rec'd 11-26-08

MINERAL RIGHTS LEASE AGREEMENT

THIS AGREEMENT entered into this 14th day November 2008 by and between **Mary Jayne Street** hereinafter referred to as "Owner" and W.W. Clyde & Co, a Utah Corporation within the State of Utah, hereinafter referred to as "W.W. Clyde."

WITNESSETH

That for and in consideration of payments made to Owner and the other terms and conditions set forth herein, Owner hereby agrees to lease to W.W. Clyde the Sub-surface Mineral Rights of Property hereinafter referred to as "Mineral Rights" of land owned by John R. Woolsey and hereinafter described, and W.W. Clyde hereby accepts the terms of this Agreement and the parties mutually agree to the following terms and conditions:

1. Description of Property: The Property which is to be leased by John R. Woolsey to W.W. Clyde hereinafter referred to as the "Property" is situated in Utah County, Utah and described as follows:

Parcel 1:

The north 2/3 of the Southwest Quarter of the Southwest Quarter of Section 23, Township 11 South, Range 8 East, Salt Lake Base and Meridian; Less sold to the state road being the north 880 feet by 1320 feet of said Southwest Quarter

Parcel 2:

The south 1/3 of the Southwest Quarter of the Southwest Quarter of Section 23, Township 11 South, Range 8 East, Salt Lake Base and Meridian, Less sold to the State Road, if any.

Parcel 3:

The Northwest Quarter of the Northwest Quarter of Section 26, Township 11 South, Range 8 East, Salt Lake Base and Meridian.

2. Quiet Possession: Owner covenants and warrants that it has full right and lawful authority to enter into this Agreement for the full term hereof and for all extensions herein provided, and that Owner is lawfully seized of the entire Mineral Rights hereby leased and has good title thereto free and clear of all tenancies, liens and encumbrances which would effect in any way the terms and uses of the Mineral Rights by W.W. Clyde as provided in this Agreement. Owner further covenants and warrants that if W.W. Clyde shall perform its obligations as set forth herein, then W.W. Clyde shall have and enjoy the quiet and undisturbed possession of all Mineral Rights for the uses and purposes herein described for the full term of this Agreement and any renewal or extension thereof.

3. Purpose of Agreement: The purpose of this Lease is to permit W.W. Clyde to conduct mining activities upon and remove from the Leased Premises, limestone and other rock products, sand and gravel, aggregates and earthen materials for the US-6 White River to MP 218 Reconstruction Project, and other projects as they become available during the lease periods. It is also understood and agreed that W.W. Clyde shall have the right to operate said activities year round, and up to 24 hours per day. W.W. Clyde shall have the right to use any method or equipment deemed necessary for the execution of its work. W.W. Clyde shall also have full access to the property during the term of the lease for purposes of its business.

4. Term of Agreement: This Agreement shall be for a term of five (5) years beginning November 14th, 2008, and ending November 14th, 2013.

5. Renewal: W.W. Clyde shall have the first right and option to renew this Agreement for an additional term of five (5) years by giving Owner written notice of its intention to exercise said option at least thirty (30) days prior to the expiration of the initial term.

7. Quantities: All quantities for materials removed the Property will be calculated in tons using truck or belt scales and weight tickets. W.W. Clyde shall be responsible for providing said scale and weight tickets. Scale certification as well as copies of the weight tickets for a pay period will be provided to the owner by W.W. Clyde upon request.

8. Survey: The boundaries of the Property shall be clearly marked with T-post style fence posts in conjunction with a survey provided for at the expense of W.W. Clyde.

9. Permits: W.W. Clyde shall be responsible to obtain all permits and clearances from the Utah Department of Transportation and the Utah Division of Oil, Gas and Mining associated with the mining and materials processing on the Property. A copy of the completed and approved DOGM permit is hereby attached to this contract by reference, and will be provided to the owner within (30) days for Owners reference.

10. Taxes and Encumbrances: Owner agrees to pay and discharge all taxes, assessments (either general or special) and any other obligations which are or may become a lien upon or levied against or encumber the Property or Mineral Rights as they become due and payable during the term of this Agreement. W.W. Clyde agrees to pay all personal property taxes upon any equipment owned by W.W. Clyde on the Property.

11. Recording: Either party shall have the right to record this Agreement upon the property with the county recorder of the county within which the Property is situated.

12. Right of Termination: W.W. Clyde shall have the exclusive right to terminate this Lease at any time and be relieved of any further obligation except the payment of any outstanding royalties due and reclamation of disturbed areas.

13. Notice: Any notice required to be given to either party pursuant to this Agreement shall be deemed to have been served when such notice has been mailed by registered mail to said party addressed to the last known place of business or residence of the party involved.

14. Binding Agreement: This Agreement shall be binding upon and inure to the benefit of the parties hereto, including their successors and assigns. This Agreement shall not be assigned without prior written consent of each party.

15. Exclusivity: This agreement for the property listed above shall serve as an exclusive agreement between the Owner and W.W. Clyde for the limestone, sands, gravels and earthen materials within the property described in Section 1. Owner agrees that no further Mineral Rights lease can be granted to a third party on this property for this purpose or one that would interfere with W.W. Clyde's intended use and operations, without the express written consent of W.W. Clyde. If Owner wishes to propose an alternate use for the property(s), not interfering with W.W. Clyde's use and operations, W.W. Clyde agrees to reasonably consider and review Owner's proposal in good faith.

16. Execution: This Lease has been prepared and is submitted for signature by the duly authorized officers of W.W. Clyde with the understanding that it shall not bind the W.W. Clyde or LESSOR until duly executed by both parties.

17. Indemnification: W.W. Clyde will hold the Owner harmless against any and all activities associated with this lease. W.W. Clyde will be provided a certificate of liability insurance for the duration of this lease naming the Owner as an additionally insured.

18. This Agreement shall be governed by and construed in accordance with the internal laws of the State of Utah.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first set forth above.

OWNER	W.W. Clyde & Company, Inc.
By: [illegible]	By: [signature]
Title: [illegible]	Title: Project Manager
Date: 1-14-09	Date: 12-5-08

Appendix F
Surety Calculations

Bonding Calculations

Direct Costs		
Subtotal Demolition and Removal	$75,662.00	
Subtotal Backfilling and Grading	$401,004.00	
Subtotal Revegetation	$71,000.00	
Direct Costs	$547,666.00	
Indirect Costs		
Mob/Demob	$54,767.00	10.0%
Contingency	$27,383.00	5.0%
Engineering Redesign	$13,692.00	2.5%
Main Office Expense	$37,241.00	6.8%
Project Mainagement Fee	$13,692.00	2.5%
Subtotal Indirect Costs	$146,775.00	26.8%
Total Cost base on 2008 Costs	$694,441.00	
Number of years		5
Escalation factor		0.013
Escalation	$16,365.00	
Reclamation Cost Escalated	$710,806.00	
Bond Amount (rounded to nearest $1,000)	$711,000.00	
2014 Dollars for 57 Total Acres		
Posted Bond		
Difference Between Cost Estimate and Bond	$0.00	
Percent Difference		

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Vegetation																			
	Seeding Costs	Standard Vegetation Costs	MinSTDVeg	1000	/AC					57						AC		57	AC	57000
	Reseeding assume 25%	Standard Vegetation Costs	MinSTDVeg	1000	/AC					14						AC		14	AC	14000
	Subtotal																			71000
	Subtotal																			
	Subtotal																			
	Subtotal																			
	Subtotal																			
	Total																			71000

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Flatten Highwall Slopes to 2H 1V															230643
Spread Remaining Aggregate Stockpiles															75818
Replace 6" Topsoil Over Entire Distrubance															94543
Total															401004

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Flatten Highwall Slopes to 2H 1V															
623G (Equipment Watch)	22775	126.05	0.1	62.15	343.15	1	343.15	$/hr	113800	LCY	358	LCY/HR	317.9	hr	109087
14H EROPS (EquipmentWatch2009)	11140	55.9	0.1	62.15	193.27	1	193.27	$/hr					317.9	hr	61441
5,000 gal H2O truck Diesel (Equipment Watch)	2775	36.65	0.1	49.15	106.81	1	106.81	$/hr					317.9	hr	33955
Foreman Average, Outside					66.35	1	66.35	$/hr					317.9	hr	21093
Pickup $4x2 (Equipment Watch)	755	10.2	0.1	0	15.94	1	15.94	$/hr					317.9	hr	5067
Subtotal															230643

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Spread Remaining Aggregate Stockpiles															
623G (Equipment Watch)	22775	126.05	0.1	62.15	343.15	1	343.15	$/hr	37400	LCY	358	LCY/HR	104.5	hr	35859
14H EROPS (EquipmentWatch2009)	11140	55.9	0.1	62.15	193.27	1	193.27	$/hr					104.5	hr	20197
5,000 gal H2O truck Diesel (Equipment Watch)	2775	36.65	0.1	49.15	106.81	1	106.81	$/hr					104.5	hr	11162
Foreman Average, Outside					66.35	1	66.35	$/hr					104.5	hr	6934
Pickup $4x2 (Equipment Watch)	755	10.2	0.1	0	15.94	1	15.94	$/hr					104.5	hr	1666
Subtotal															75818

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Replace 6" Topsoil Over Entire Distrubance															
623G (Equipment Watch)	22775	126.05	0.1	62.15	343.15	1	343.15	$/hr	45999	LCY	358	LCY/HR	128.5	hr	44095
14H EROPS (EquipmentWatch2009)	11140	55.9	0.1	62.15	193.27	1	193.27	$/hr					128.5	hr	24835
5,000 gal H2O truck Diesel (Equipment Watch)	2775	36.65	0.1	49.15	106.81	1	106.81	$/hr					128.5	hr	13725
Foreman Average, Outside					66.35	1	66.35	$/hr					128.5	hr	8526
Pickup $4x2 (Equipment Watch)	755	10.2	0.1	0	15.94	1	15.94	$/hr					128.5	hr	2048
14H EROPS (EquipmentWatch2009)	11140	55.9	0.1	62.15	193.27	1	193.27	$/hr	21	LCY	3.1	AC/HR	6.8	hr	1314
															94543

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Crusher																			24231
	Asphalt Plant																			47950
	Scale House																			3481
																				75662

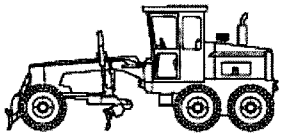
Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Crusher																			
	Conveyor	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	70	4	4							15	ft		16800	cf	5208
	Jaw Crusher/Feeder	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	12	12								ft		5760	cf	1786
	3 Decks 7x20 screen	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	10	12								ft		4800	cf	1488
	3 Decks 7x20 screen	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	10	12								ft		4800	cf	1488
	2 Decks 5x16 screen	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	30	10	12								ft		3600	cf	1116
	Cone Crusher w/Screen	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	12	12								ft		5760	cf	1786
	Control Tower	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	45	10	12								ft		5400	cf	1674
	VSI Impact Crusher	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	10	12								ft		4800	cf	1488
	Generator - 1700 KW	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	8	10								ft		3200	cf	992
	Conex Parts Storage Container	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	8	8								ft		2560	cf	794
	Wash Plant	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	12	12								ft		5760	cf	1786
	Misc Pipe, legs and Splitter	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	8	8								ft		2560	cf	794
	23 miles to Price no additional transport charge																			
	Total Volume of Materials																	65800	cf	
	Volume of Depris																0.3	19740	cf	
	Wieght of Depris												488			lb/cf		4817	tons	
	Number of Trip 16 tons																	301	trip	
	Hours 4 hr round trip													0		hr/trip		0	hr	
	Haul to Recycling Center 4 hr rnd trip	Truck dump 16 ton payload	01 54 33 20 5300	533	/day													0	day	0
	Truck Driver	Truck Driver, Heavy	Trhv	$49.15	HR													0	hr	0
	Subtotal																			20400
	Fuel Tank																			
	Removal of Storage Tanks	9000 gal to 12000 gal tank	02 65 10 30 0130	1500	Ea.										1	Ea		1	EA	1500
	Remove sludge, water, remaining products	9000 gal to 12000 gal tank	02 65 10 30 0320	435	Ea.										1	Ea		1	EA	435
	Haul tank 100 miles round trip	9000 gal to 12000 gal tank	02 65 10 30 1029	1276	Ea.										1	Ea		1	EA	1276
	Subtotal																			3211
	Demolition Cost Structures Disposed on Site																			
	Truck Scales	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	100	10	2								ft		2000	cf	620
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			620
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Total																			24231

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Demolition Cost Structures to be Removed																			
	Asphalt Plant																			
	Contro House/Switch Van	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	45	12	10								ft		5400	cf	1674
	Asphalt Drum Drier	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	100	12	12								ft		14400	cf	4464
	Bag House	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	100	12	12								ft		14400	cf	4464
	Primary Dust Collector	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	50	12	12								ft		7200	cf	2232
	Cold Feed Feeder Bins	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	90	10	14								ft		12600	cf	3906
	Asphatl Tanks	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	90	12	12							2	gal		25920	cf	8035
	Asphatl Tanks	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	30	8	8							2	gal		3840	cf	1190
	Lime Silo	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	80	12	12								ft		11520	cf	3571
	Lime Guppy	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	80	12	12								ft		11520	cf	3571
	Control House	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	10	12								ft		4800	cf	1488
	Rap Feeder Bins	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	11	14								ft		6160	cf	1910
	Conveyors 3	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	80	4	4							3	ft		3840	cf	1190
	Pugmill	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	8	10								ft		3200	cf	992
	Hot Storage Silo	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	100	12	12								ft		14400	cf	4464
	Conex Parts Storage Container	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	8	8								ft		2560	cf	794
	Misc., Pipe, legs,Augers, Ducts	Steel Bld. Large	02 41 16 13 0020	0.31	/CF	40	8	8								ft		2560	cf	794
	23 miles to Price no additional transport charge																			
	Total Volume of Materials																	144320	cf	
	Volume of Depris																0.3	43296	cf	
	Wieght of Depris												488			lb/cf		10564	tons	
	Number of Trip 16 tons/trip																	660	trip	
	Hours 4 hr round trip													0		hr/trip		0	hr	
	Haul to Recycling Center 4 hr rnd trip	Truck dump 16 ton payload	01 54 33 20 5300	533	/day													0	day	0
	Truck Driver	Truck Driver, Heavy	Trhv	$49.15	HR													0	hr	0
	Subtotal																			44739
	Fuel Tank																			
	Removal of Storage Tanks	9000 gal to 12000 gal tank	02 65 10 30 0130	1500	Ea.										1	Ea		1	EA	1500
	Remove sludge, water, remaining products	9000 gal to 12000 gal tank	02 65 10 30 0320	435	Ea.										1	Ea		1	EA	435
	Haul tank 100 miles round trip	9000 gal to 12000 gal tank	02 65 10 30 1029	1276	Ea.										1	Ea		1	EA	1276
	Subtotal																			3211
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Total																			47950

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Scale House																			
	Deduct 50% no interior walls																			
	Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.33	/CF	40	10	10										4000	cf	1320
	Structure's Vol. Demolished																0.3	1200	CY	
	Rubble's Weight (exclude steel)												100			lb/cf		60	tons	
	Truck's Capacity											16				tons/trip		4	trips	
	23 miles to Price no additional transport charge																			
	Haulage																			
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	533	/day									0		day/trip		0	day	0
	Transportation Cost Non Steel Driver	Truck Driver, Heavy	Trhv	$49.15	HR													0	hr	0
	Disposal Cost Non Steel	ECDC	ECDC	35	/TON													60	tons	2100
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			3420
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			
	Concrete Demolition																			
	Demolition Cost	Concrete demolition	ConcreteDemo1	11.03	/CY	12	4	1								ft		2	CY	22
	Concrete's Vol. Demolished																1.3	3	CY	
	Loading Cost	Front end loader wheel 3 CY	31 23 16 42 1601	1.01	/CY													3	CY	3
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 20 0320	2.92	/CY													3	CY	9
	Disposal Costs	Disposal on site	02 41 16 17 4200	9	/CF													3	CY	27
	Subtotal																			61
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Total																			3481

EQUIPMENT WATCH

Friday, Apr 3, 2009



Caterpillar 14H (discontinued 2007)

Articulated Frame Graders

Size Class:
Net Hp: 200 - 249 HP
Weight:
41,465 lbs.

Compare Similar Models | Add To My Fleets

Configuration for 14H

Power Mode:	**Diesel**	Operator Protection:	**EROPS**
Moldboard Size:	**14'**	Net Horsepower:	**220.0**

Blue Book Rates

Rate Effective Dates: Always Use Current Rate

	Ownership Costs				Estimated Operating Costs	FHWA Rate
	Monthly	Weekly	Daily	Hourly	Hourly	Hourly
Published Rates	$11,140.00	$3,120.00	$780.00	$115.00	$55.90	$119.20
Adjustments						
Region (Utah: 86.5%)	-$1,503.90	-$421.20	-$105.30	-$15.52		
Model Year (100%)	-	-	-	-		
Ownership (100%)	-	-	-	-		
Operating (100%)					-	
Total:	**$9,636.10**	**$2,698.80**	**$674.70**	**$99.48**	**$55.90**	**$110.65**

For details, see Rate Element Allocation

Adjustments

Default Settings

Model Year: Please Select

Region: Utah | Canadian Regions | Alaskan Regions

User Defined

Ownership: %

Operating: %

Adjust Rates

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	33%	$3,676.20 / mo
Overhaul (ownership)	39%	$4,344.60 / mo
CFC (ownership)	14%	$1,559.60 / mo
Indirect (ownership)	14%	$1,559.60 / mo
Fuel (operating) @ $3.96	50%	$27.88 / hr

Revised Date: 2nd Half 2008

Email : customerservice@equipmentwatch.com
Version: 3.2.12A

EQUIPMENT WATCH

Friday, Apr 3, 2009

Caterpillar 623G
Single Engine Elevating Scrapers

Size Class:
Heaped Capacity - Cubic Yds: 18 & Under 30CY
Weight:
82,530 lbs.

Compare Similar Models | Add To My Fleets

Configuration for 623G

Power Mode:	**Diesel**	Scraper Capacity:	**18.0 - 23.0 cy**
Net Horsepower:	**365.0**	Operator Protection:	**EROPS**

Manufacturer Notes: C-H = Cushion-Hitch

Blue Book Rates

Rate Effective Dates: Always Use Current Rate

	Ownership Costs				Estimated Operating Costs	FHWA Rate
	Monthly	Weekly	Daily	Hourly	Hourly	Hourly
Published Rates	$22,775.00	$6,375.00	$1,595.00	$240.00	$126.05	$255.45
Adjustments						
Region (Utah: 86.5%)	-$3,074.62	-$860.62	-$215.32	-$32.40		
Model Year (100%)	-	-	-	-		
Ownership (100%)	-	-	-	-		
Operating (100%)						
Total:	**$19,700.38**	**$5,514.38**	**$1,379.68**	**$207.60**	**$126.05**	**$237.98**

For details, see Rate Element Allocation

Adjustments

Default Settings

Model Year: Please Select

Region: Utah
Canadian Regions Alaskan Regions

User Defined

Ownership: %

Operating: %

Adjust Rates

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	29%	$6,604.75 / mo
Overhaul (ownership)	49%	$11,159.75 / mo
CFC (ownership)	12%	$2,733.00 / mo
Indirect (ownership)	10%	$2,277.50 / mo
Fuel (operating) @ $3.96	44%	$54.93 / hr

Revised Date: 2nd Half 2008

Email : customerservice@equipmentwatch.com
Version: 3.2.12A

EQUIPMENT WATCH

Friday, Apr 3, 2009

On-Highway Light Duty Trucks
Miscellaneous Models

Add To My Fleets +

Configuration for On-Highway Light Duty Trucks

Power Mode:	**Diesel**	Cab Type:	**Conventional**
Axle Configuration:	**4X2**	Ton Rating:	**3/4**
Horsepower:	**160.0**		

Blue Book Rates

Rate Effective Dates: Always Use Current Rate

	Ownership Costs				Estimated Operating Costs	FHWA Rate
	Monthly	Weekly	Daily	Hourly	Hourly	Hourly
Published Rates	$755.00	$210.00	$53.00	$8.00	$10.20	$14.49
Adjustments						
Region (Utah: 89.8%)	-$77.01	-$21.42	-$5.41	-$0.82		
Model Year (100%)	-	-	-	-		
Ownership (100%)	-	-	-	-		
Operating (100%)					-	
Total:	**$677.99**	**$188.58**	**$47.59**	**$7.18**	**$10.20**	**$14.05**

For details, see Rate Element Allocation

Adjustments

Default Settings

Model Year: Please Select

Region: Utah
Canadian Regions | Alaskan Regions

User Defined

Ownership: %

Operating: %

Adjust Rates

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	56%	$422.80 / mo
Overhaul (ownership)	25%	$188.75 / mo
CFC (ownership)	9%	$67.95 / mo
Indirect (ownership)	10%	$75.50 / mo
Fuel (operating) @ $3.96	75%	$7.60 / hr

Revised Date: 2nd Half 2008

Email : customerservice@equipmentwatch.com
Version: 3.2.12A

EQUIPMENT WATCH

Friday, Apr 3, 2009

On-Highway Water Tankers
Miscellaneous Models

Add To My Fleets +

Configuration for On-Highway Water Tankers

Power Mode:	**Diesel**	Tank Capacity:	**3,500 gal**
Horsepower:	**250.0**		

Equipment Notes: Rates include pump and rear spray system.

Blue Book Rates

Rate Effective Dates: Always Use Current Rate

	Ownership Costs				Estimated Operating Costs	FHWA Rate
	Monthly	Weekly	Daily	Hourly	Hourly	Hourly
Published Rates	$2,775.00	$775.00	$195.00	$29.00	$36.65	$52.42
Adjustments						
Region (Utah: 89.8%)	-$283.05	-$79.05	-$19.89	-$2.96		
Model Year (100%)	-	-	-	-		
Ownership (100%)	-	-	-	-		
Operating (100%)					-	
Total:	**$2,491.95**	**$695.95**	**$175.11**	**$26.04**	**$36.65**	**$50.81**

For details, see Rate Element Allocation

Adjustments

Default Settings

Model Year: Please Select

Region: Utah
Canadian Regions Alaskan Regions

User Defined

Ownership: %

Operating: %

Adjust Rates

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	52%	$1,443.00 / mo
Overhaul (ownership)	24%	$666.00 / mo
CFC (ownership)	12%	$333.00 / mo
Indirect (ownership)	12%	$333.00 / mo
Fuel (operating) @ $3.96	68%	$24.75 / hr

Revised Date: 2nd Half 2008

Email : customerservice@equipmentwatch.com
Version: 3.2.12A

Project: Woolsey Quarry
Date: 3/30/09
Prepared by: B. Sumsion

WORKSHEET 12
PRODUCTIVITY AND HOURS REQUIRED FOR MOTORGRADER USE

Earthmoving Activity: Scarifying Roads, Plant & Stockpile Area

Characterization of Grader Used (type, size capacity, etc.):
Cat 14 H 14' Wide Blade, Ripper Beam Width 8'6" Wide

Description of Grader Route (push distance, grade, effective blade width, operating speed, etc.):
21 Acres of area to scarify

Productivity Calculations:

Grading

Hourly Production = _____ (average speed) mi/hr x _____ (effective blade width) ft x 5,280 ft/mi x 1 ac/43,560 ft²

x _____ (efficiency factor) = _____ ac/hr

Hours Required = _____ (area to be graded) ac ÷ _____ (hourly production) ac/hr = _____ hr

Scarification

Hourly Production = 4 (average speed) mi/hr x 8.5 (scarifier width) ft x 5,280 ft/mi x 1 ac/43,560 ft²

x .75 (efficiency factor) = 3.1 ac/hr 21/3.1 = 7 Hr or use 8 hr

Hours Required = _____ (area to be scarified) ac ÷ _____ (hourly production) ac/hr = _____ hr

Total Hours Required

Total Hours = _____ (grading hours required) + _____ (scarification hours required) = _____ hr

Data Source(s):

Project: Woolsey Quarry
Date: 3-30-09
Prepared by: B. Sumsion

WORKSHEET 12
PRODUCTIVITY AND HOURS REQUIRED FOR MOTORGRADER USE

Earthmoving Activity: Knocking down for Scrapers

Characterization of Grader Used (type, size capacity, etc.): Cat 14H Grader Blade length 14'

Description of Grader Route (push distance, grade, effective blade width, operating speed, etc.):

Productivity Calculations:

Grading @30°

Hourly Production = 3.50 (average speed) mi/hr x 12.12 (effective blade width) ft x 5,280 ft/mi x 1 ac/43,560 ft²

x .75 (efficiency factor) = 5.14 ac/hr

Hours Required = _____ (area to be graded) ac ÷ _____ (hourly production) ac/hr = _____ hr

Scarification

Hourly Production = _____ (average speed) mi/hr x _____ (scarifier width) ft x 5,280 ft/mi x 1 ac/43,560 ft²

x _____ (efficiency factor) = _____ ac/hr

Hours Required = _____ (area to be scarified) ac ÷ _____ (hourly production) ac/hr = _____ hr

Total Hours Required

Total Hours = _____ (grading hours required) + _____ (scarification hours required) = _____ hr

Data Source(s):

Project: Woolsey Quarry Rec
Date: 3/30/09
Prepared by: R. Sumsion

WORKSHEET 11B
PRODUCTIVITY OF DOZER PUSH-LOADED SCRAPER USE

Earthmoving Activity: Redistribution of Overburden

Characterization of Scraper Used (type, capacity, etc.): CAT 623G

Description of Scraper Use (origin, destination, grade, haul distance, capacity, etc.):
Origin - O.B. Stockpile, Dest - Quarry Face, Grade 5%, Dist 1,200'
List Pusher Tractor(s) Used: N/A capacity - 23 CY Heaped

Describe Push Tractor Loading Method (see figure on next page):

Scraper Productivity Calculations:

Cycle Time = .90 (load time) min + .6 (loaded trip time) min + .70 (maneuver and spread time) min + .70 (return trip time) min = 2.90 min

Hourly Production = 20.5 (capacity *) LCY x 60 min/hr ÷ 2.90 (cycle time) min x .75 (efficiency factor) = 318 LCY/hr

Hours Required = 113 800 (volume to be handled) LCY ÷ 318 (hourly production) LCY/hr = 358 hr

* Use the average of the struck and heaped capacities.

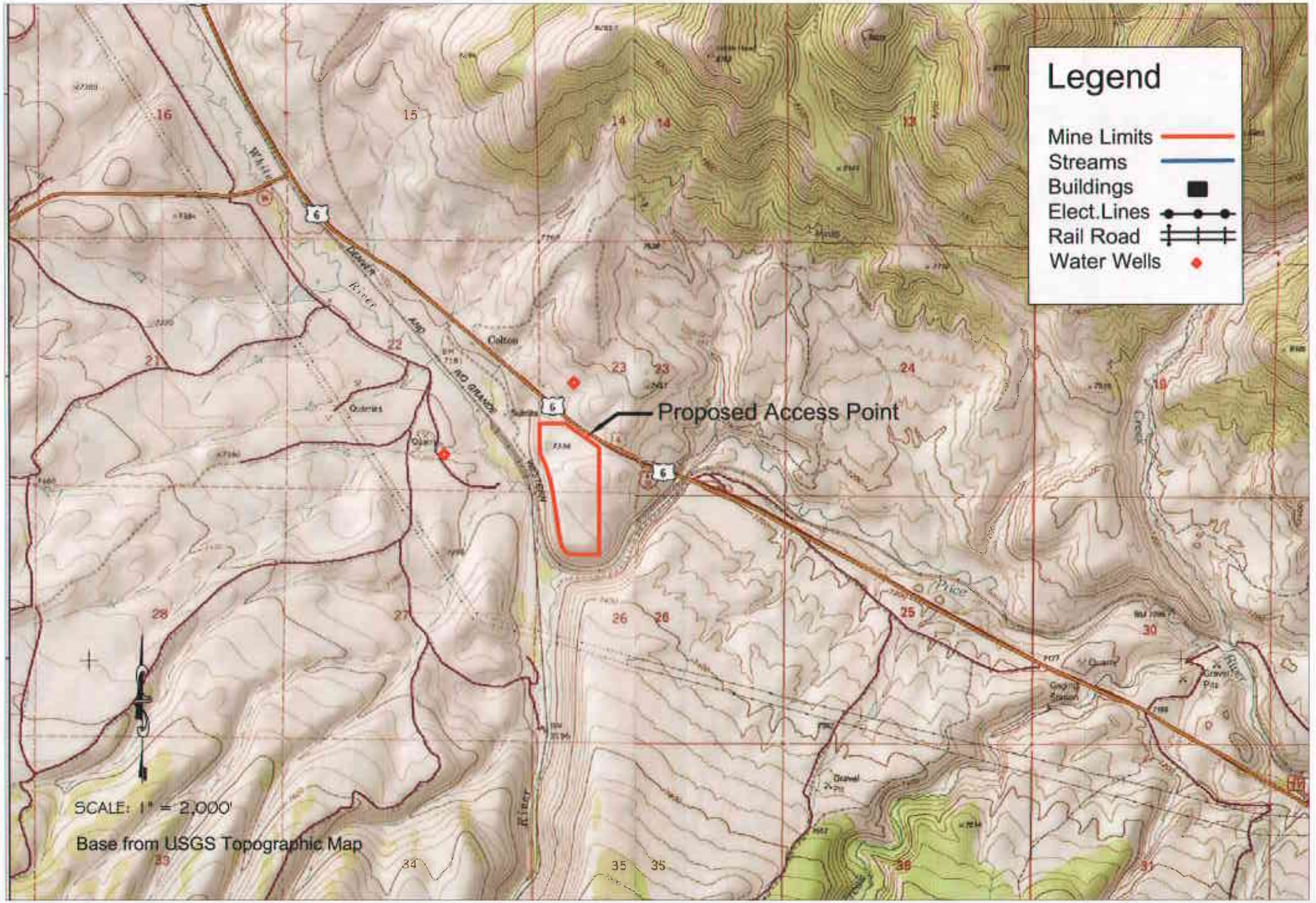
Push Tractor Productivity Calculations:

Pusher Cycle Time = _____ (scraper load time) min x _____ (pusher factor) = _____ min

Scrapers/Pusher = _____ (scraper cycle time) min ÷ _____ (pusher cycle time) min = _____ scrapers

Pusher Hours Required = _____ (scraper hours) hr ÷ _____ (scrapers per pusher) = _____ (round up) hr

Data Source(s):



CLYDE COMPANIES, INC
730 NORTH 1500 WEST
OREM, UTAH 84059
801-802-6900

WOOLSEY QUARRY DOGM PERMIT APPLICATION

NO	DATE	DESCRIPTION	BY

Engineer:

TITLE
BASE MAP / LOCATION MAP
FIGURE 1

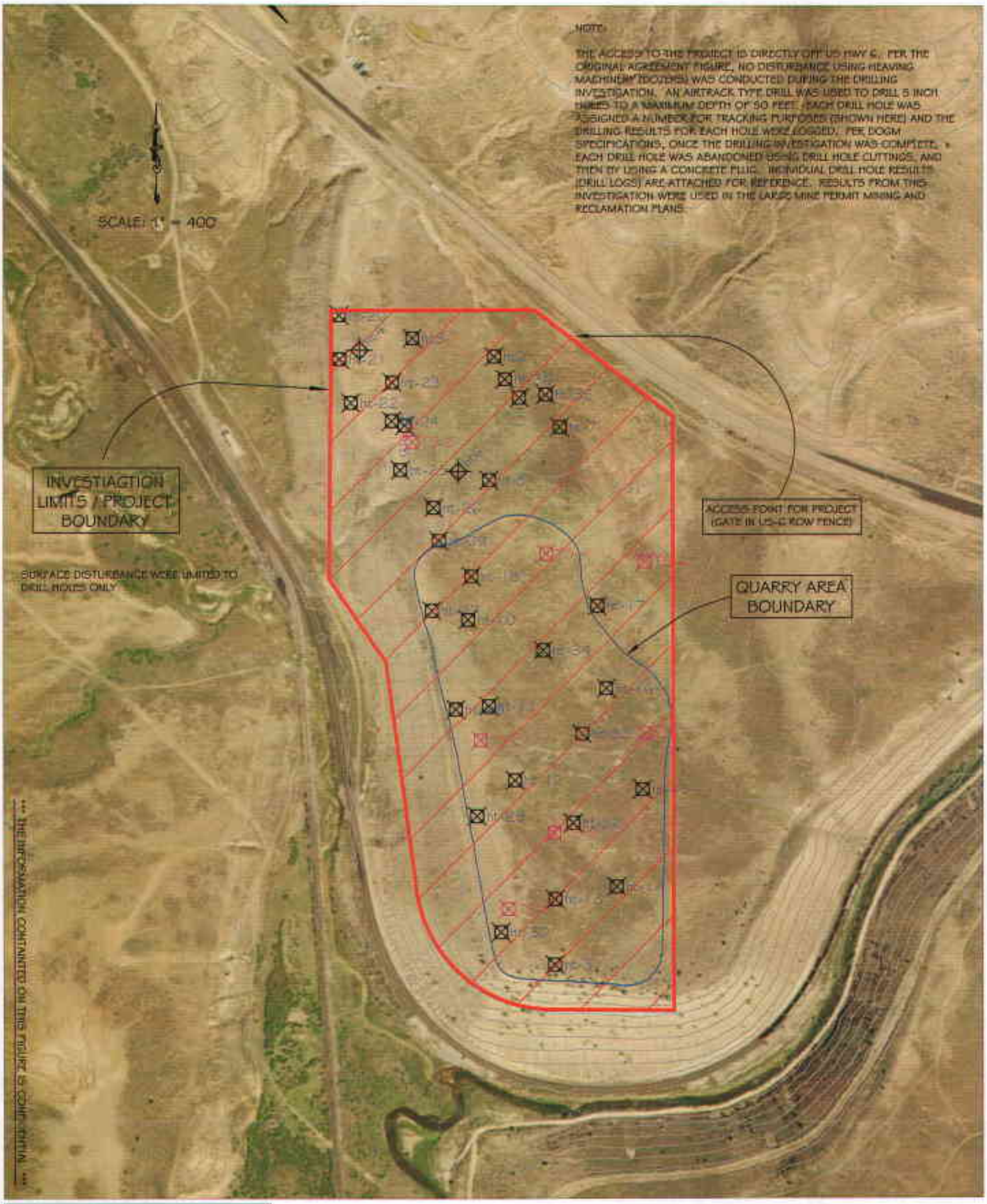
Revision: 00

ISSUED FOR INTERNAL REVIEW

Drawn	B SUMSION
Checked	BS /ASCC
Approved	
Date	1-29-08
Dwg. No.	CCI - 7777

W.W. CLYDE - WOOLSEY PIT INVESTIGATION

INVESTIGATION RESULTS OVERVIEW (DRILL LOCATIONS)



LEGEND:

- PROJECT LIMITS
- RECORDED DRILL HOLE LOCATION
- EXISTING GROUND CONTOUR (25')
- QUARRY DISTURBANCE BOUNDARY
- TOPSOIL SAMPLE LOCATION

Drawn: LG	TITLE: WOOLSEY QUARRY DRILL SAMPLE LOCATIONS					W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY 1375 N MAIN STREET SPRINGVILLE, UT 801-802-6800
Checked: DH / BH			NO.	DATE:	DESCRIPTION:	BY:	
Approved:							
Date: 12-20-2006							
Dwg. No. 7106 - DOGM	FIGURE 1A	Revision 00					

W.W. CLYDE & COMPANY
1375 N MAIN STREET
SPRINGVILLE, UTAH

W.W. CLYDE - WOOLSEY QUARRY DOGM PERMIT APPLICATION

DRILL SAMPLING RESULTS SUMMARY TABLE

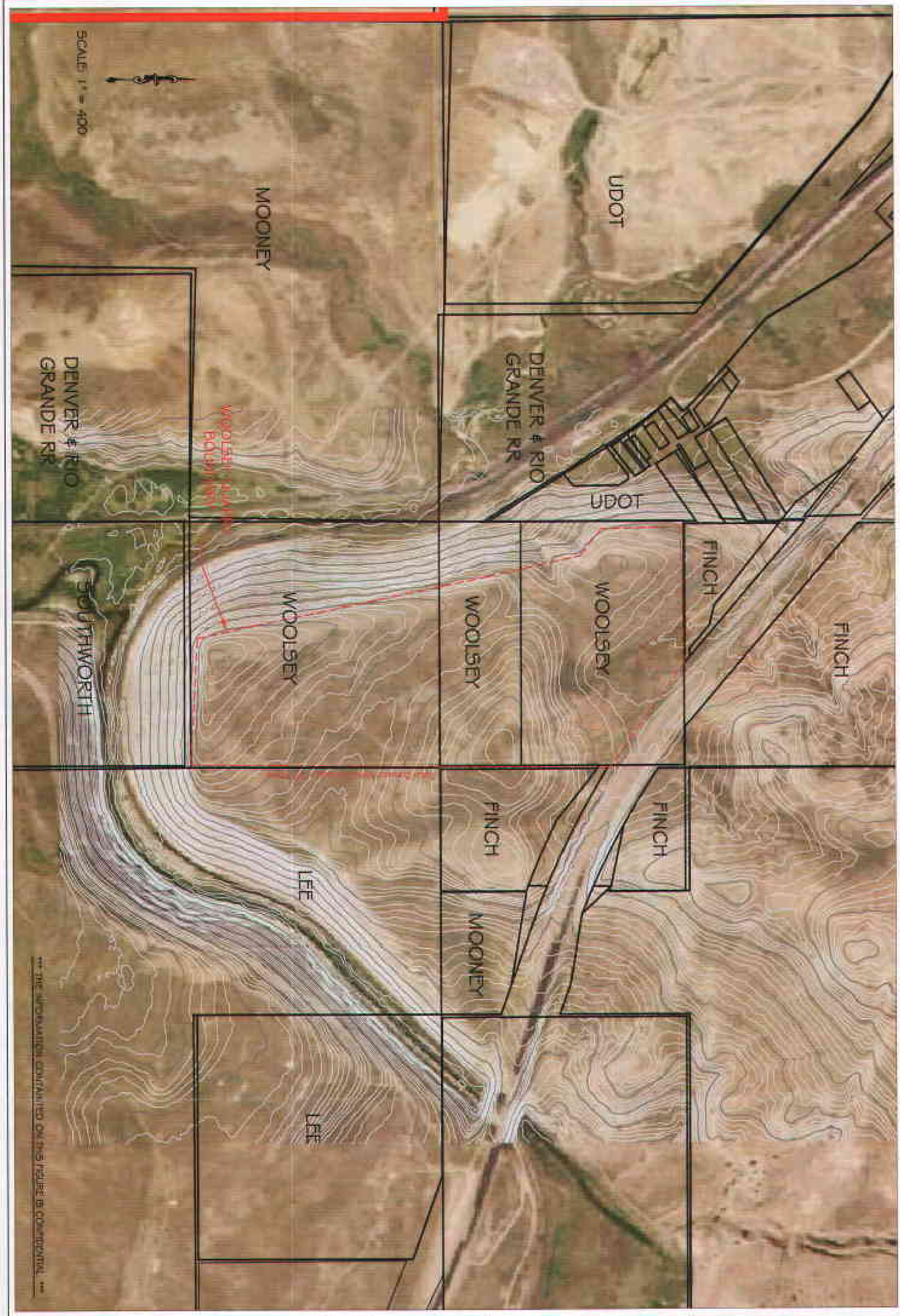
SAMPLE NUMBER	IN QUARRY AREA (YES/NO)	DEPTH OF OVERBURDEN (FEET)	DEPTH OF LIMESTONE (FEET)	NOTES:
HT -1	NO	10	≥ 35	Limestone with small seams of clays in between
HT-2	NO	20	≥ 25	Limestone with small seams of clays in between
HT-3	NO	20	≥ 25	Limestone with small seams of clays in between
HT-4	NO	10	≥ 35	Limestone with small seams of clays in between
HT-5	NO	5	≥ 40	Limestone with small seams of clays in between
HT-6	NO	8	≥ 40	Limestone with small seams of clays in between
HT-7	NO	20	≥ 25	Limestone with small seams of clays in between
HT-8	NO	20	≥ 25	Limestone with small seams of clays in between
HT-9	NO	1	≥ 45	Limestone at surface level with minimum topsoil cover
HT-17	NO	35	n/a	Stopped at 35'. Overburden too deep for removal
HT-20	NO	20	≥ 25	Limestone with small seams of clays in between
HT-21	NO	15	≥ 35	Limestone with small seams of clays in between
HT-22	NO	20	≥ 25	Limestone with small seams of clays in between
HT-23	NO	20	≥ 25	Limestone with small seams of clays in between
HT-24	NO	15	≥ 35	Limestone with small seams of clays in between
HT-25	NO	15	≥ 35	Limestone with small seams of clays in between
HT-26	NO	5	≥ 40	Limestone with small seams of clays in between
HT-35	NO	35	≥ 10	Limestone with small seams of clays in between
HT-36	NO	30	≥ 15	Limestone with small seams of clays in between
HT-10	YES	1	≥ 45	Limestone at surface level with minimum topsoil cover
HT-11	YES	1	≥ 45	Limestone at surface level with minimum topsoil cover
HT-12	YES	1	≥ 45	Limestone at surface level with minimum topsoil cover
HT-13	YES	2.5	≥ 45	Limestone with small seams of clays in between
HT-14	YES	5	≥ 40	Limestone with small seams of clays in between
HT-15	YES	6	≥ 40	Limestone with small seams of clays in between
HT-16	YES	6	≥ 40	Limestone with small seams of clays in between
HT-18	YES	2	≥ 45	Limestone with small seams of clays in between
HT-27	YES	1	≥ 45	Limestone at surface level with minimum topsoil cover
HT-28	YES	1	≥ 45	Limestone at surface level with minimum topsoil cover
HT-29	YES	1	≥ 45	Limestone at surface level with minimum topsoil cover
HT-30	YES	1	≥ 45	Limestone at surface level with minimum topsoil cover
HT-31	YES	1	≥ 45	Limestone at surface level with minimum topsoil cover
HT-32	YES	5	≥ 40	Limestone with small seams of clays in between
HT-33	YES	6	≥ 40	Limestone with small seams of clays in between
HT-34	YES	5	≥ 40	Limestone with small seams of clays in between

SAMPLE NUMBER	IN QUARRY AREA (YES/NO)	DEPTH OF TOPSOIL (FEET)		NOTES:
TS-1	YES	0.5		HARD ROCK ENCOUNTERED JUST BELOW TOPSOIL LEVEL
TS-2	YES	0.5		SILTY CLAYS ENCOUNTERED BELOW TOPSOIL LEVEL
TS-3	YES	0.5		HARD ROCK ENCOUNTERED JUST BELOW TOPSOIL LEVEL
TS-4	YES	0.5		SILTY CLAYS ENCOUNTERED BELOW TOPSOIL LEVEL
TS-5	NO	0.5		HARD ROCK ENCOUNTERED JUST BELOW TOPSOIL LEVEL
TS-6	NO	0.5		SILTY CLAYS ENCOUNTERED BELOW TOPSOIL LEVEL
TS-7	YES	0.5		SILTY CLAYS ENCOUNTERED BELOW TOPSOIL LEVEL

AVERAGE DEPTH OF OVERBURDEN WITHIN QUARRY DISTURBANCE AREA:	2.84	FEET
TOTAL ACREAGE OF QUARRY DISTURBANCE AREA:	29.55	ACRES
ESTIMATED AMOUNT OF OVERBURDEN TO BE REMOVED AND STORED:	135572.94	CUBIC YARDS

** ALL DRILLING OPERATIONS WERE CONDUCTED WITH AN AIR-TRACK TYPE SELF PROPELLED DRILL RIG. A 5 INCH DIAMETER HOLE WAS DRILLED AT EACH OF THE ABOVE LOCATIONS. W.W. CLYDE SET A MAXIMUM DRILL SAMPLE DEPTH OF 50 FEET FROM ORIGINAL GROUND SURFACE. EACH DRILL HOLE WAS LOGGED ACCORDING TO THE DRILL CUTTINGS CONTENT, APPEARANCE AND THE GENERAL HARDNESS OF THE DRILLING IN ORDER TO ASCERTAIN THE APPROXIMATE TYPE AND DEPTH OF MATERIALS BEING ENCOUNTERED. DUE TO THIS METHOD OF SAMPLING, THERE WILL BE SOME INHERENT VARIABILITY IN THE RESULTANT DEPTHS AND MATERIAL THICKNESSES DERIVED FROM THE SAMPLING ACTIVITIES

** TOPSOIL SAMPLES WERE CONDUCTED USING A HAND SHOVEL AND DIGGING UNTIL REJECTION OR UNTIL A VISIBLE CHANGE IN THE SOILS WAS ENCOUNTERED. EACH SOIL SAMPLE AREA WAS THEN LOGGED FOR POSITION AND SOIL SAMPLES COLLECTED AND BAGGED FOR ANALYSIS AT THE BYU SOILS LABORATORY.



Drawn: LC	TITLE: LAND OWNERSHIP MAP	Engineer:	
Checked:			
Approved:			
Date:	FIGURE 2	Revision: 00	
Dwg No 7108 - DOGM			

NO.	DATE	DESCRIPTION	BY

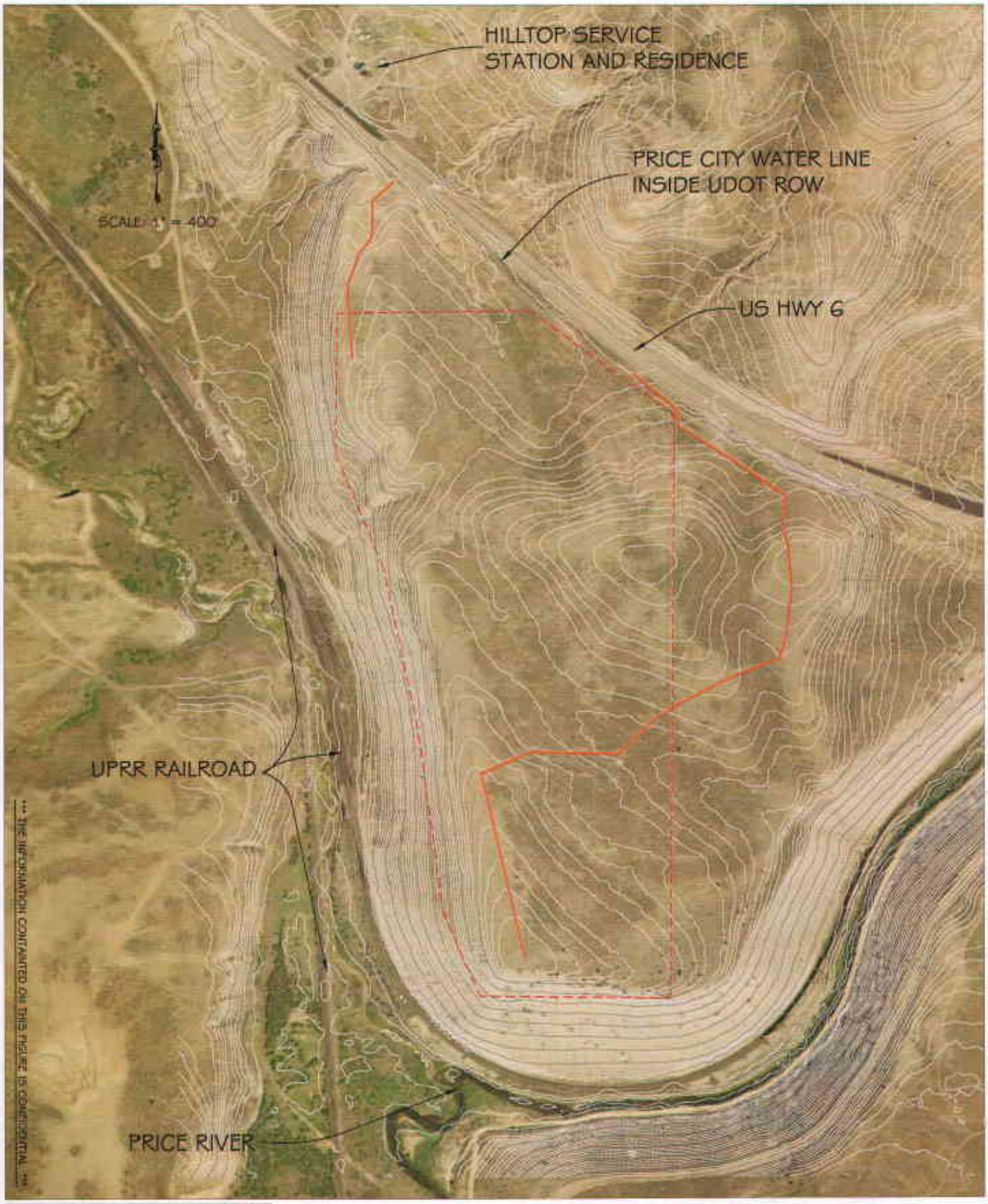
W.W. CLYDE & COMPANY
WOOLSEY QUARRY DOGM
PERMIT APPLICATION

W.W.CLYDE

WW CLYDE & COMPANY
1375 N MAIN STREET
SPRINGVILLE, UT
801-802-6800

W.W. CLYDE - WOOLSEY DOGM PERMIT

EXISTING CONTOURS AND FEATURES



LEGEND:

- WOOLSEY QUARRY PROPERTY LIMITS
- EXISTING DIRT ACCESS ROADS
- EXISTING GROUND CONTOUR (25')
- EXISTING GROUND CONTOURS (5')
- WATER LINE (SUB SURFACE)

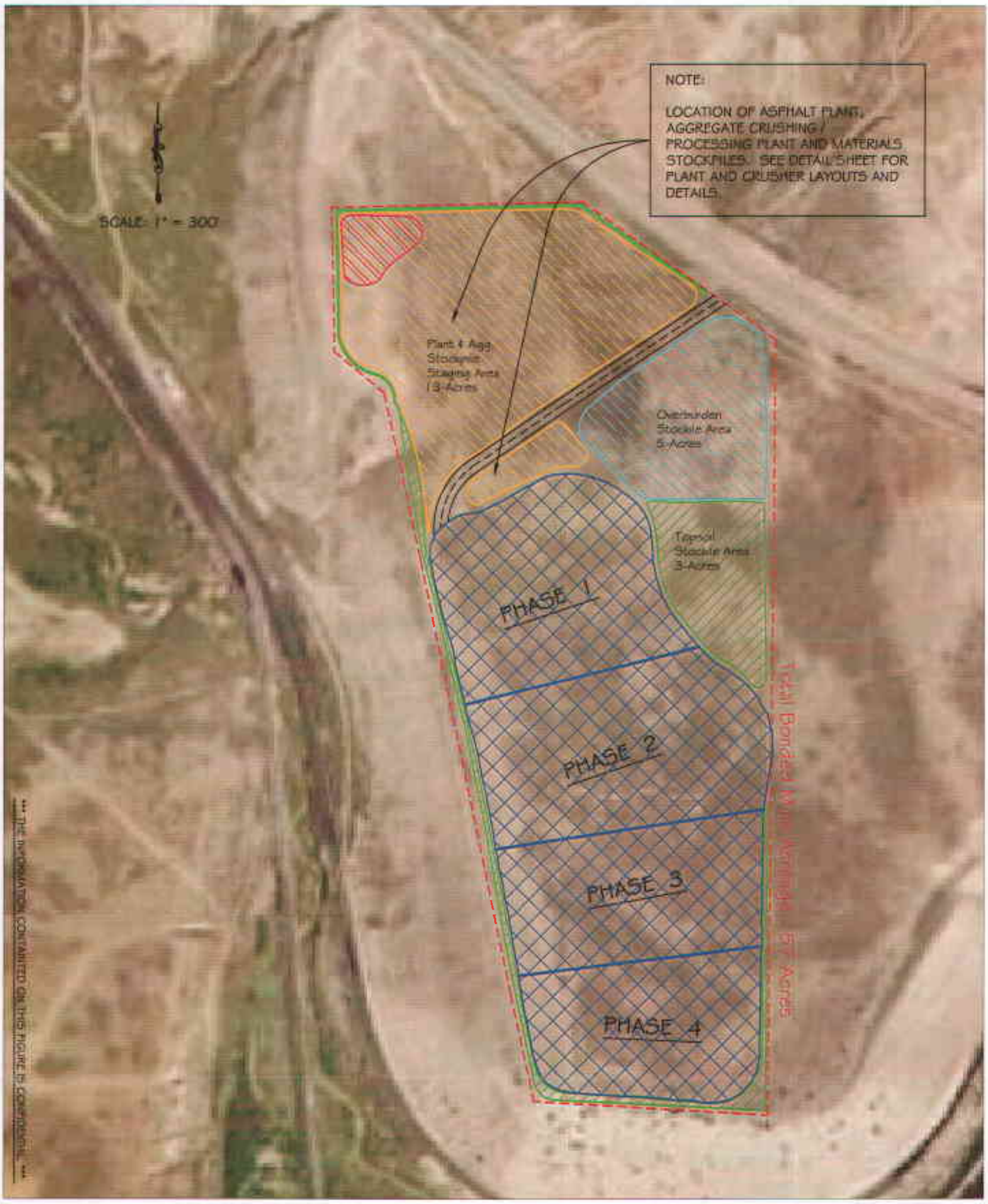
NOTE:

THE WOOLSEY QUARRY PROPERTY IS LOCATED IN COLTON, UTAH AND DIRECTLY ADJOINS A PORTION OF THE SOUTH SIDE OF US HWY 6. THERE ARE NO EXISTING STRUCTURES ON THE PROPERTY, OR ANY OF THE ADJOINING PARCELS SOUTH OF THE HIGHWAY. THERE ARE NO OVERHEAD OR SUBSURFACE UTILITIES ON THE PROPERTY, BUT THERE ARE SOME SUBSURFACE WATER LINES LOCATED INSIDE THE UDOT ROW ALONG THE NORTH SIDE OF THE PROPERTY. THERE IS ALSO A UNION PACIFIC RAILROAD LINE RUNNING ALONG THE SOUTH AND WEST SIDES OF THE PROPERTY 200 FEET BELOW THE QUARRY SURFACE ALONG THE PRICE RIVER. THE EXISTING GROUND CONDITIONS FOR THE QUARRY ARE A GENTLY SLOPING PLATEAU WITH STEEP SIDESLOPES ON THE SOUTH AND WEST EDGES OF THE QUARRY BOUNDARY.

Drawn: LG	Title: WOOLSEY QUARRY EG CONTOURS / FEATURES	Engineer:				W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY 1375 N MAIN STREET SPRINGVILLE, UT 801-802-6800
Checked: DM / BH			NO	DATE:	DESCRIPTION:	BY:	
Approved:							
Date: 2-20-2008	FIGURE 3	Revision: 00					
Dwg. No: 7108 - DOGM							

W.W. CLYDE - WOOLSEY DOGM PERMIT

MINE PLAN OVERVIEW / PHASING PLAN



LEGEND:

- WOOLSEY QUARRY 57-ACRE BONDED DISTURBANCE LIMITS
- ACTUAL WOOLSEY QUARRY FOOTPRINT
- TOPSOIL STORAGE AREAS
- PRODUCT PROCESSING / STOCKPILE AREAS
- STOCKPILE / PROCESSING AREA STORM RUNOFF IMPOUNDMENT BASIN
- OVERBURDEN STOCKPILE AREA

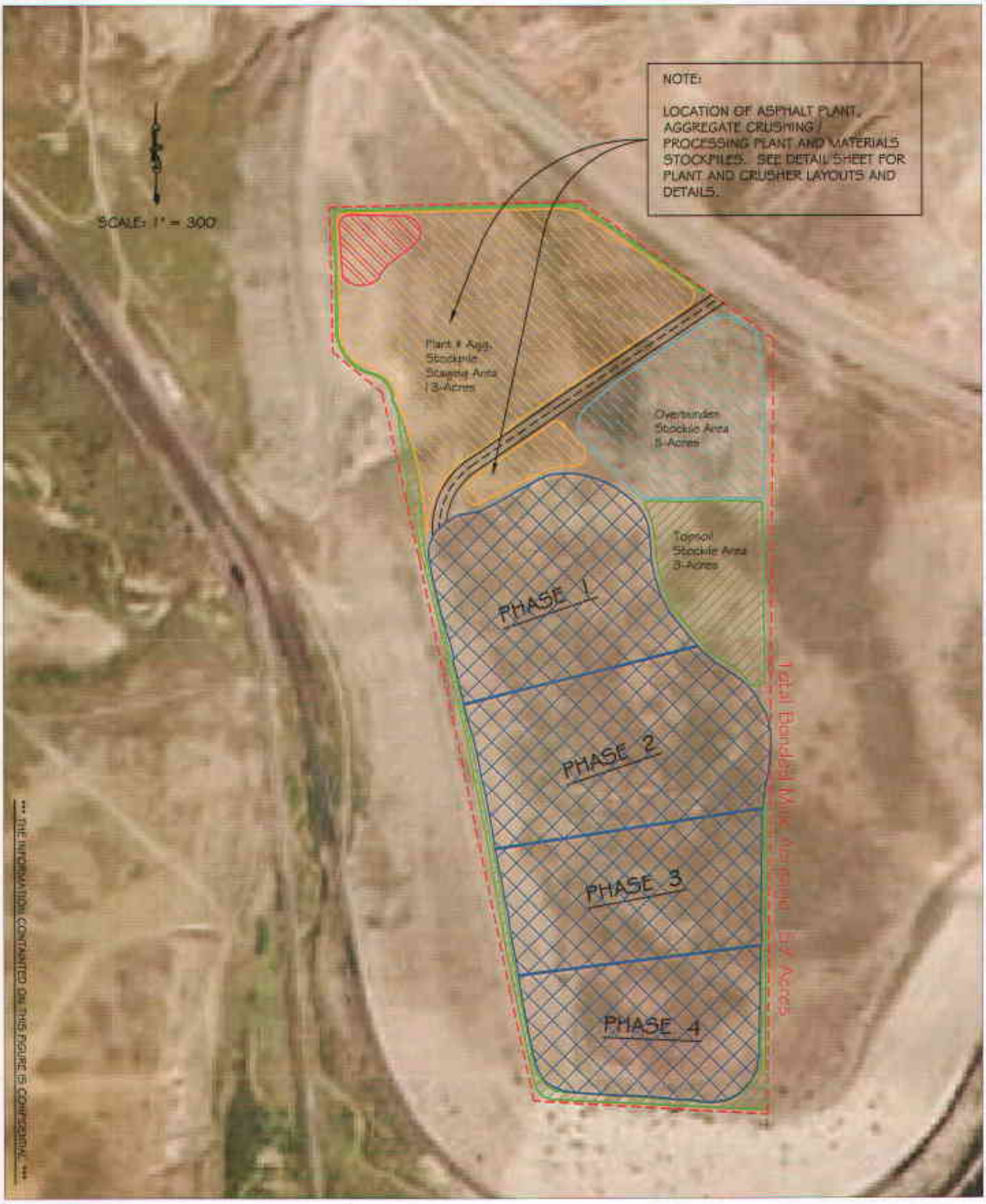
NOTE:

THE LAYOUT OF THE WOOLSEY QUARRY PROPERTY (SHOWN ABOVE) CONSISTS OF FOUR MAJOR COMPONENTS. THE ACTUAL QUARRY AREA IS DENOTED IN BLUE SHADING AND IS SEPARATED INTO FOUR PHASES OF MINING. THE AREAS FOR MATERIALS STOCKPILING, SECONDARY CRUSHING AND PROCESSING ARE SHOWN IN DARK YELLOW SHADING. THERE IS A 30 FOOT WIDE ACCESS ROAD THAT SPLITS THESE AREAS ON ITS WAY INTO THE QUARRY. SURROUNDING THE QUARRY, AREAS FOR THE STORAGE OF TOPSOIL AND OVERBURDEN SOILS TO BE USED IN THE RECLAMATION PROCESS OF THE QUARRY ARE SHOWN IN GREEN AND LIGHT BLUE SHADING. BMP'S FOR EROSION CONTROL WILL BE IMPLEMENTED AROUND TOPSOIL STOCKPILE AREAS, AND AROUND THE PERIMETER OF THE ENTIRE QUARRY PROPERTY. THESE INCLUDE, BUT ARENT LIMITED TO, SILT FENCING, BERMS, DITCHES, STRAW BALES, ETC.

Drawn: LG	TITLE: WOOLSEY QUARRY MINE PLAN / PHASING PLAN	Engineer:					W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY 1375 N MAIN STREET SPRINGVILLE, UT 801-802-6800
Checked: DM / BM								
Approved:								
Date: 12-20-2006	FIGURE 4	Revision: 00	NO	DATE	DESCRIPTION	BY		
Dwg. No. 7108 - DOGM								

W.W. CLYDE - WOOLSEY DOGM PERMIT

MINE PLAN OVERVIEW / PHASING PLAN



LEGEND:

- WOOLSEY QUARRY BONDED DISTURBANCE LIMITS
- ACTUAL WOOLSEY QUARRY FOOTPRINT
- TOPSOIL STORAGE AREAS
- PRODUCT PROCESSING / STOCKPILE AREAS
- STOCKPILE / PROCESSING AREA STORM RUNOFF IMPOUNDMENT BASIN
- OVERBURDEN STOCKPILE AREA

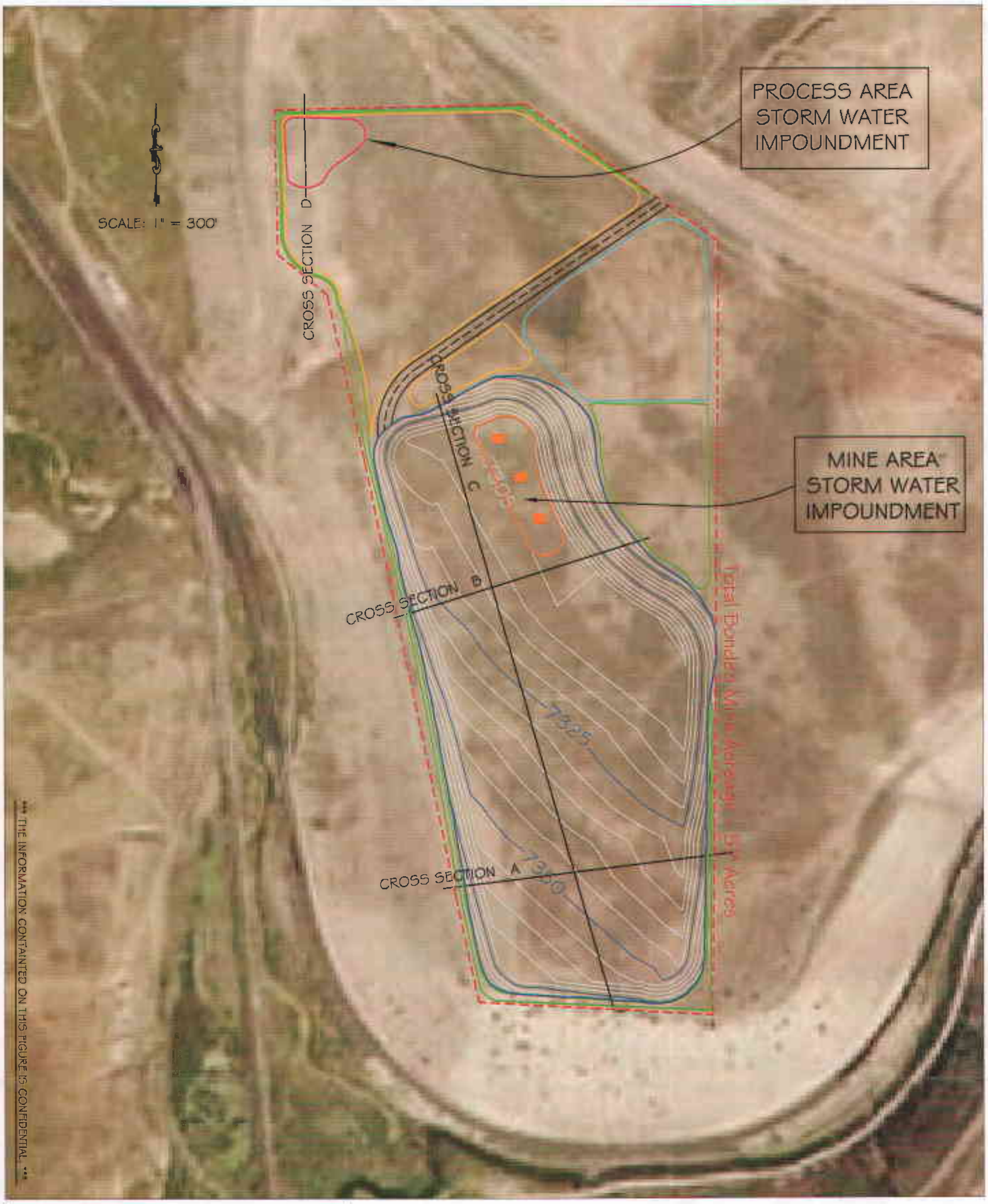
NOTE:

THE LAYOUT OF THE WOOLSEY QUARRY PROPERTY (SHOWN ABOVE) CONSISTS OF FOUR MAJOR COMPONENTS. THE ACTUAL QUARRY AREA IS DENOTED IN BLUE SHADING AND IS SEPARATED INTO FOUR PHASES OF MINING. THE AREAS FOR MATERIALS STOCKPILING, SECONDARY CRUSHING AND PROCESSING ARE SHOWN IN DARK YELLOW SHADING. THERE IS A 30 FOOT WIDE ACCESS ROAD THAT SPLITS THESE AREAS ON ITS WAY INTO THE QUARRY. SURROUNDING THE QUARRY, AREAS FOR THE STORAGE OF TOPSOIL AND OVERBURDEN SOILS TO BE USED IN THE RECLAMATION PROCESS OF THE QUARRY ARE SHOWN IN GREEN AND LIGHT BLUE SHADING. BMP'S FOR EROSION CONTROL WILL BE IMPLEMENTED AROUND TOPSOIL STOCKPILE AREAS, AND AROUND THE PERIMETER OF THE ENTIRE QUARRY PROPERTY. THESE INCLUDE, BUT ARENT LIMITED TO, SILT FENCING, BERMS, DITCHES, STRAW BALES, ETC.

Drawn: LG	TITLE: WOOLSEY QUARRY MINE PLAN / PHASING PLAN	Engineer:				W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY 1375 N MAIN STREET SPRINGVILLE, UT 801-802-6800
Checked: DH / BH							
Approved:							
Date: 12-20-2006	FIGURE 4	Revision: 00	NO	DATE	DESCRIPTION		
Dwg. No. 7108 - DOGM							

W.W. CLYDE - WOOLSEY DOGM PERMIT

MINE EXCAVATION PLAN



LEGEND:

- WOOLSEY QUARRY PROPERTY LIMITS
- FINAL MINE MAJOR CONTOURS (25')
- FINAL MINE MINOR CONTOURS (5')
- CROSS-SECTION VIEW REFERENCE LINES
- MINE STORM WATER IMPOUNDMENT AREA WITH VERTICAL RIP-RAP SUMPS FOR STANDING WATER DISPERSAL

NOTE:

THE FINAL EXCAVATED MINE CONTOURS (SHOWN ABOVE) REPRESENT AN AVERAGE 50 FOOT CUT DOWN FROM ORIGINAL GROUND LEVEL TO THE BOTTOM OF THE LIMESTONE DEPOSIT BEING REMOVED. LIKE THE ORIGINAL GROUND, THE FINISHED CONTOURS SLOPE FROM WEST TO EAST AND FROM SOUTH TO NORTH AT THE ORIGINAL EXISTING GROUND SLOPES. THE SIDE SLOPES OF THE FINISHED QUARRY WILL BE CONSTRUCTED AT A MINIMUM 3:1 SLOPE ANGLE. ALL FINAL SLOPES, BOTH ON THE MINE FLOOR AND THE SIDE SLOPES SHALL BE CONSTRUCTED USING "MICRO TOPOGRAPHIC" METHODS IN ORDER TO LEAVE A MORE NATURAL LOOKING SURFACE WITHOUT PLANAR CLEAN LINES, THAT WILL BOTH HELP TO TRAP SURFACE MOISTURE FOR RE-VEGITATION AS WELL AS LEND TO A MORE NATURAL LOOK THAT BLENDS INTO THE SURROUNDING AREA FEATURES.

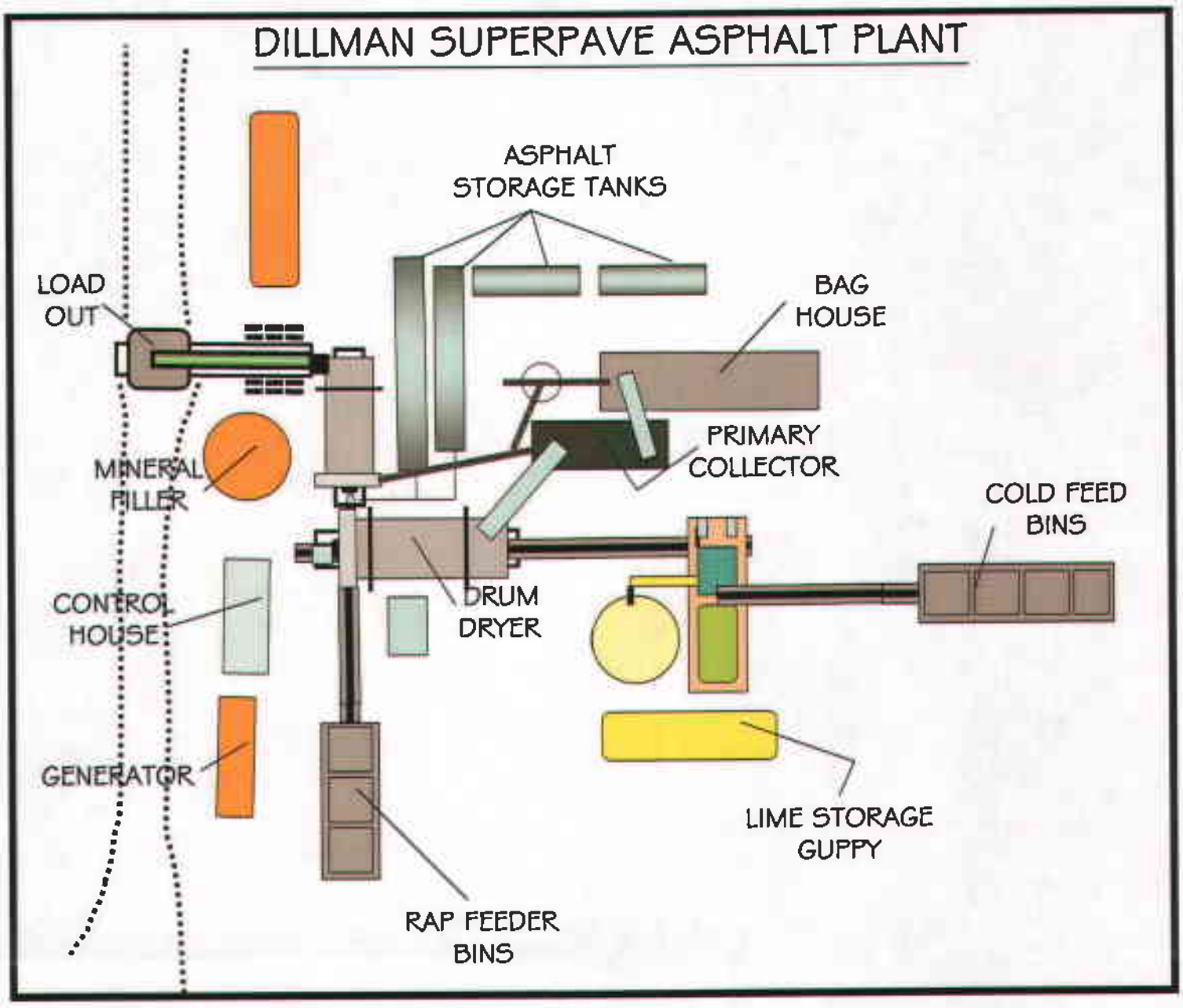
Drawn: JS	Title: WOOLSEY QUARRY MINE EXCAVATION PLAN	Engineer:						W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION
Checked: CH / BH								
Approved:								
Date: 12-23-2009	FIGURE 4A	Revision: 00	NO.	DATE	DESCRIPTION	BY		
Dwg. No. 7100 - MDM4								

WW CLYDE & COMPANY
1375 N MAIN STREET
SPRINGVILLE, UT
801-802-6200

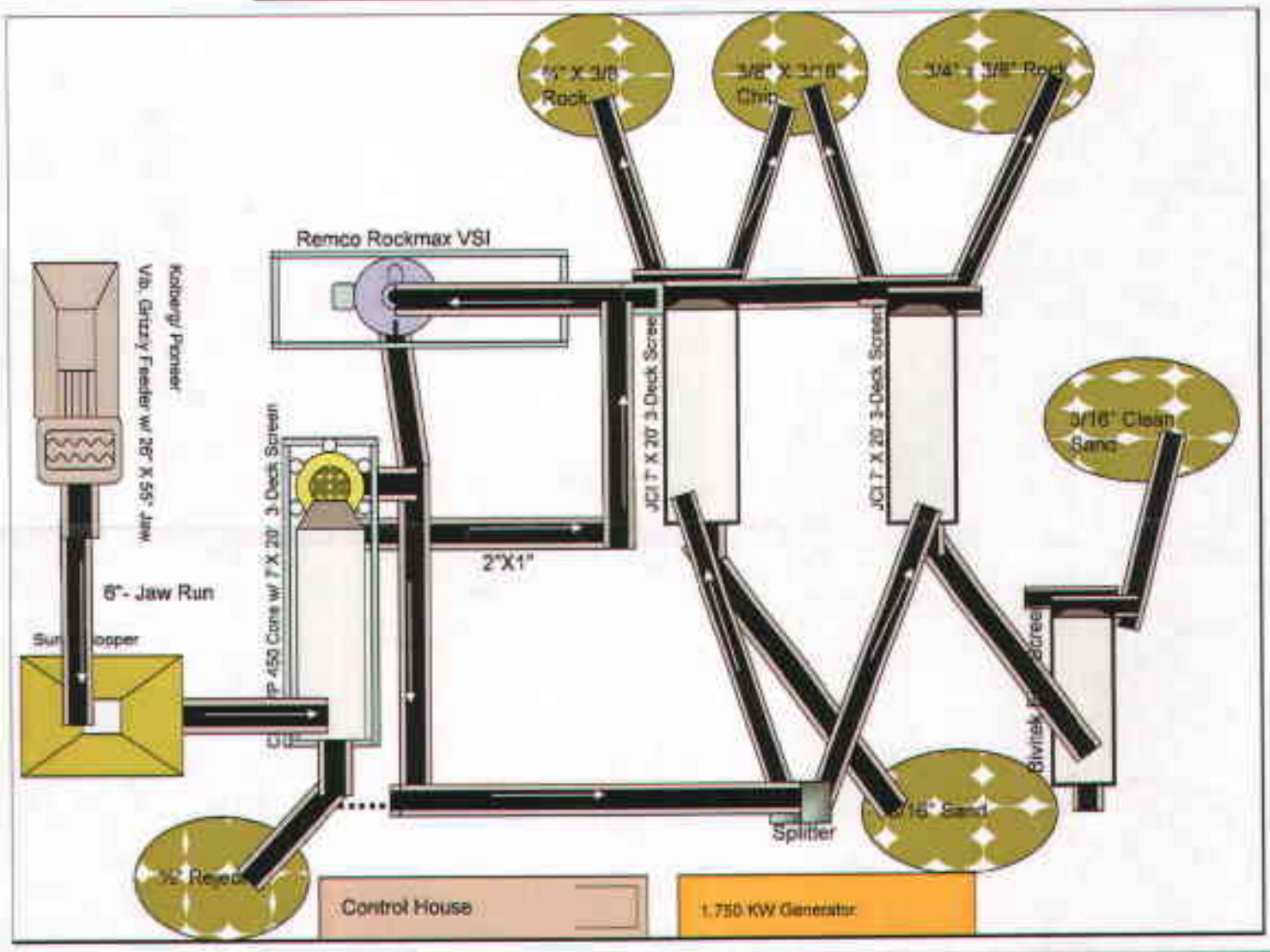
W.W. CLYDE - WOOLSEY DOGM PERMIT

ASPHALT PLANT AND CRUSHER DETAILS

DILLMAN SUPERPAVE ASPHALT PLANT



GENERAL CRUSHING CONFIGURATION



Drawn: LG	TITLE: WOOLSEY QUARRY MISC PLANT DETAILS	Engineer:				W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY 1375 N MAIN STREET SPRINGVILLE, UT 801-802-6800
Checked: DH / BH			NO.	DATE:	DESCRIPTION:	BY:	
Approved:							
Date: 12-20-2006							
Dwg. No. 7105 - DOGM	FIGURE 4B	Revisions: 00					

W.W. CLYDE - WOOLSEY DOGM PERMIT

STORM WATER RUNOFF PLAN

LEGEND:

- WOOLSEY QUARRY PROPERTY LIMITS
- MINE DISTURBANCE BOUNDARY
- STORM WATER RUNOFF AREA A
- STORM WATER RUNOFF AREA B

NOTE:

THE RATIONAL METHOD FOR STORMWATER RUNOFF CALCULATIONS WAS EMPLOYED FOR THIS RUNOFF MODEL AS THE TOTAL ACREAGE BEING CALCULATED WAS LESS THAN 100 ACRES. PRECIPITATION FREQUENCY AND DEPTH DATA FOR THIS SITE WAS GENERATED BY NOAA AND IS ATTACHED IN THE CALCULATION DETAIL SHEET. A RUNOFF COEFFICIENT OF 0.75 WAS USED FOR THIS MODEL WHICH WAS DERIVED FROM THE SOILS SAMPLED GATHERED ON SITE.

THE GENEAL FORMULA FOR VOLUME OF V=C(P/12)A WAS EMPLOYED WHERE
V= VOLUME
C= RUNOFF COEFFICIENT
P= RAINFALL DEPTH IN INCHES
A= DRAINAGE AREA IN ACRES

Drawn: LD	TITLE: WOOLSEY QUARRY STORM WATER RUNOFF	Engineer:				W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY 1375 N MAIN STREET SPRINGVILLE, UT 801-802-6600
Checked: BW/BH							
Approved:							
Date: 12-22-2008	FIGURE 5A	Revision: 00					
Dwg No 7108 - DOGM			NO.	DATE:	DESCRIPTION:	BY:	

W.W. CLYDE - WOOLSEY DOGM PERMIT

STORM WATER RUNOFF PLAN - DETAILS

POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14

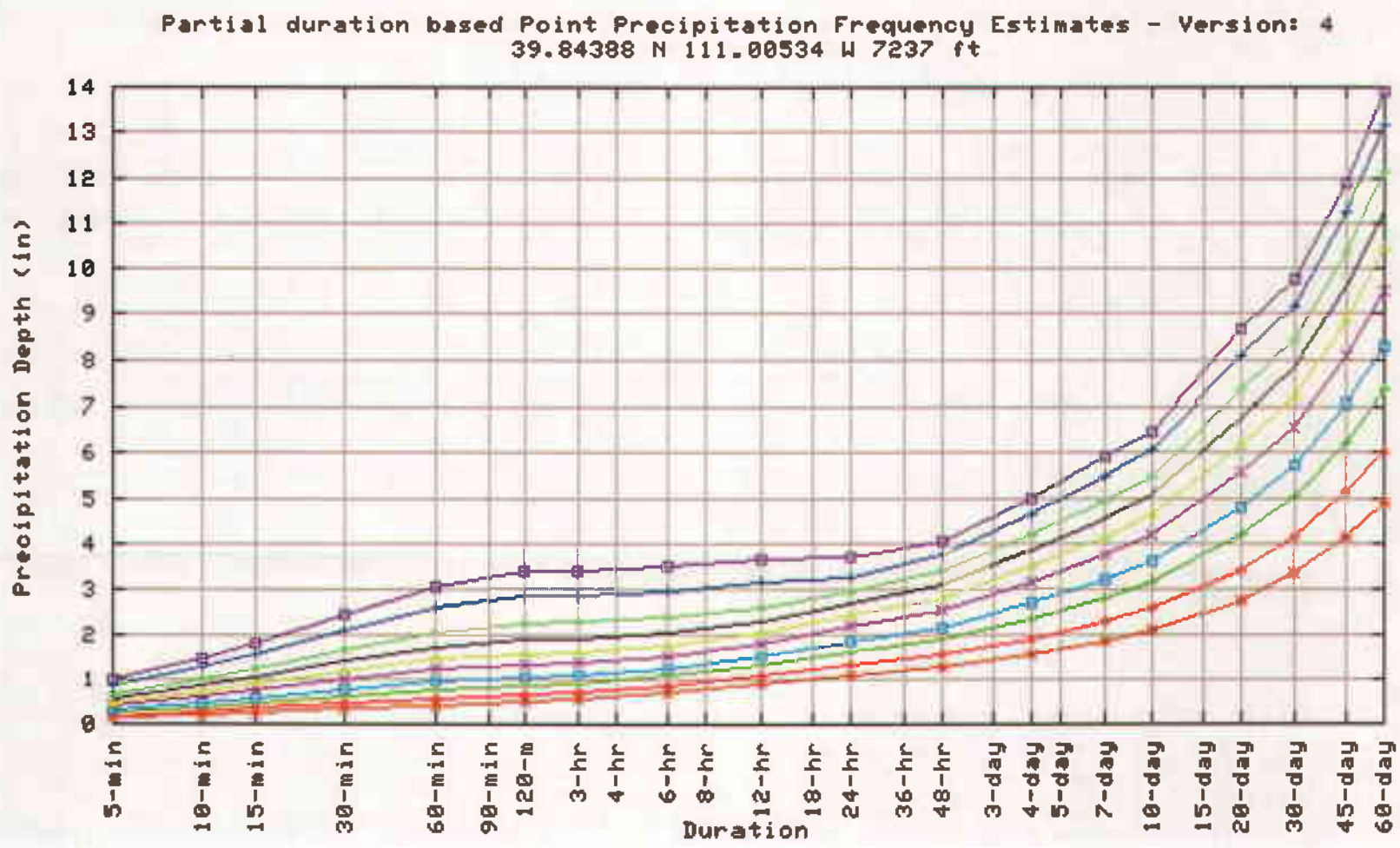
Utah 39.84388 N 111.00534 W 7237 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 4
G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2006
Extracted: Thu Feb 5 2009

Precipitation Frequency Estimates (inches)

ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.13	0.20	0.25	0.34	0.42	0.49	0.54	0.69	0.87	1.09	1.27	1.57	1.86	2.11	2.75	3.34	4.12	4.86
2	0.17	0.26	0.32	0.44	0.54	0.62	0.68	0.85	1.08	1.35	1.57	1.94	2.30	2.61	3.41	4.14	5.12	6.04
5	0.24	0.36	0.45	0.60	0.74	0.83	0.88	1.07	1.32	1.65	1.91	2.35	2.80	3.17	4.17	5.02	6.20	7.32
10	0.29	0.45	0.56	0.75	0.93	1.02	1.07	1.25	1.53	1.88	2.19	2.69	3.19	3.61	4.77	5.69	7.03	8.29
25	0.38	0.58	0.72	0.98	1.21	1.32	1.37	1.52	1.82	2.20	2.55	3.14	3.73	4.19	5.56	6.56	8.09	9.53
50	0.46	0.71	0.88	1.18	1.46	1.59	1.63	1.77	2.06	2.44	2.83	3.48	4.13	4.63	6.15	7.20	8.86	10.43
100	0.56	0.85	1.05	1.41	1.75	1.91	1.95	2.07	2.31	2.69	3.11	3.84	4.55	5.06	6.75	7.82	9.62	11.31
200	0.66	1.01	1.25	1.68	2.08	2.27	2.30	2.40	2.60	2.94	3.39	4.19	4.95	5.49	7.33	8.43	10.34	12.14
500	0.83	1.26	1.56	2.11	2.61	2.84	2.88	2.96	3.15	3.27	3.76	4.65	5.49	6.05	8.09	9.19	11.24	13.18
1000	0.98	1.49	1.85	2.49	3.08	3.38	3.41	3.49	3.66	3.70	4.04	5.00	5.90	6.46	8.66	9.75	11.89	13.92

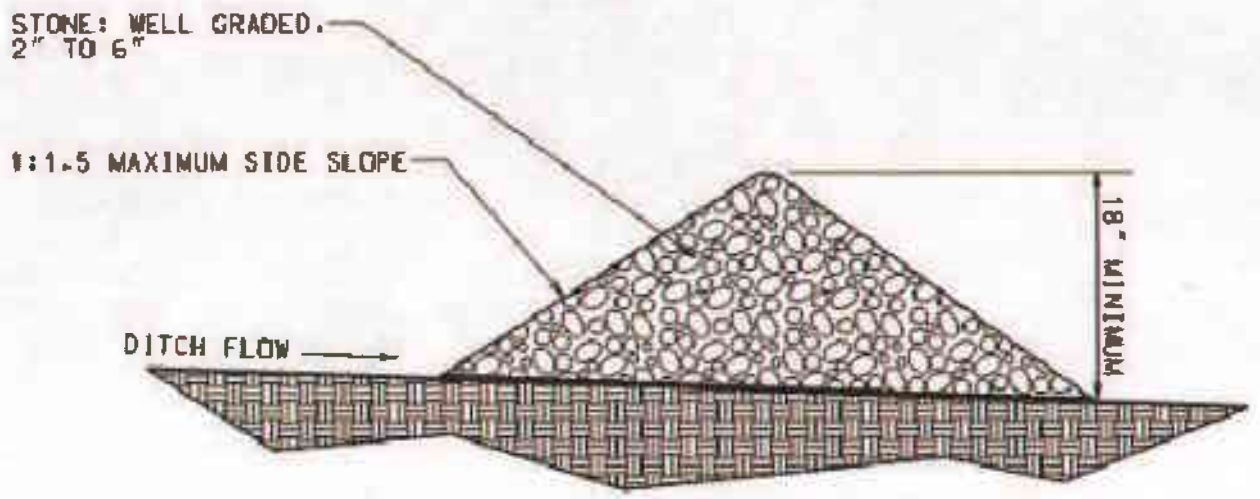
*These precipitation frequency estimates are based on a partial duration series. ARI is the Average Recurrence Interval.
Please refer to NOAA Atlas 14 Document for more information. NOTE: Formatting forces estimates near zero to appear as zero.



Drawn: LG	TITLE: WOOLSEY QUARRY STORM WATER RUNOFF	Engineer:			W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY 1375 N MAIN STREET SPRINGVILLE, UT 801-802-6800
Checked: DH / BH						
Approved:						
Date: 12-20-2006						
Dwg. No 7108 - DOGM	FIGURE 5A-1	Revisions: 00	NO.	DATE:	DESCRIPTION:	BY:

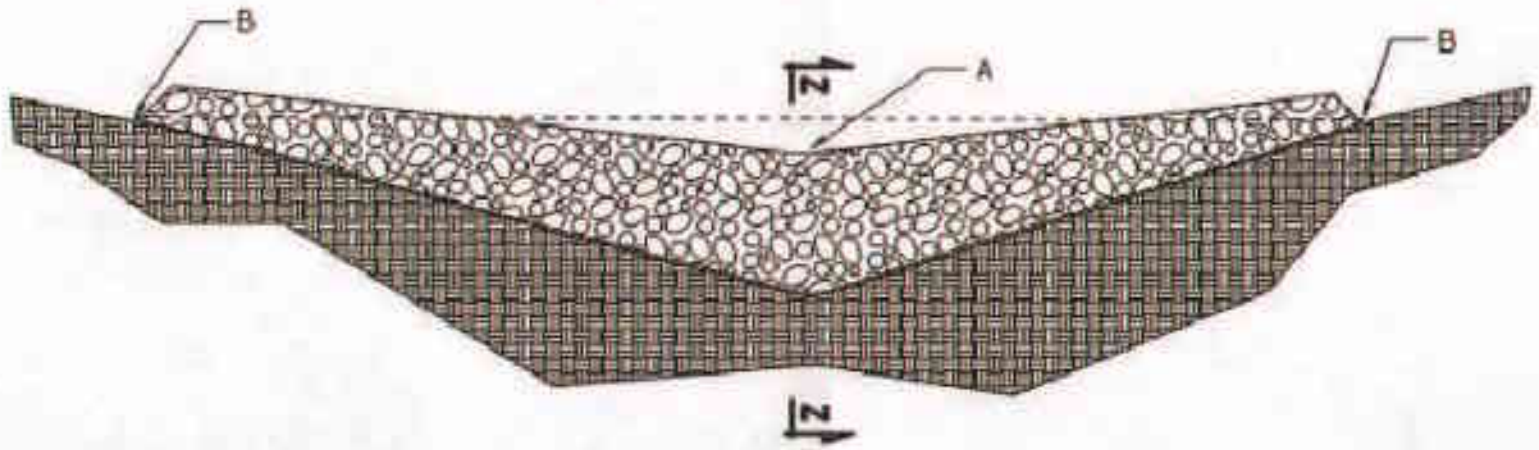
W.W. CLYDE - WOOLSEY DOGM PERMIT

EROSION CONTROL BMP DETAILS



SECTION Z - Z

CONSTRUCT THE CHECK DAM SO THAT POINT "A" IS A MINIMUM OF 4" LOWER THAN POINT "B".



STONE CHECK DAM

WW CLYDE & COMPANY
1375 N MAIN STREET
SPRINGVILLE, UT
801-802-6800

W.W. CLYDE & COMPANY
WOOLSEY QUARRY DOGM
PERMIT APPLICATION

NO	DATE	DESCRIPTION	BY

Engineer:

TITLE: WOOLSEY QUARRY
EROSION CONTROL BMP'S

FIGURE 5B

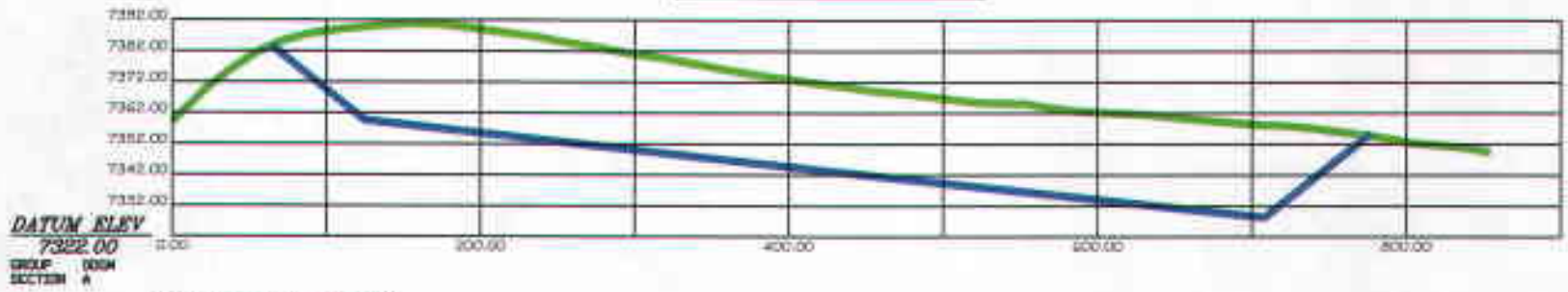
Revision: 00

Drawn: LG
Checked: DH / SM
Approved:
Date: 12-20-2005
Dwg. No: 7105 - DOGM

W.W. CLYDE - WOOLSEY DOGM PERMIT

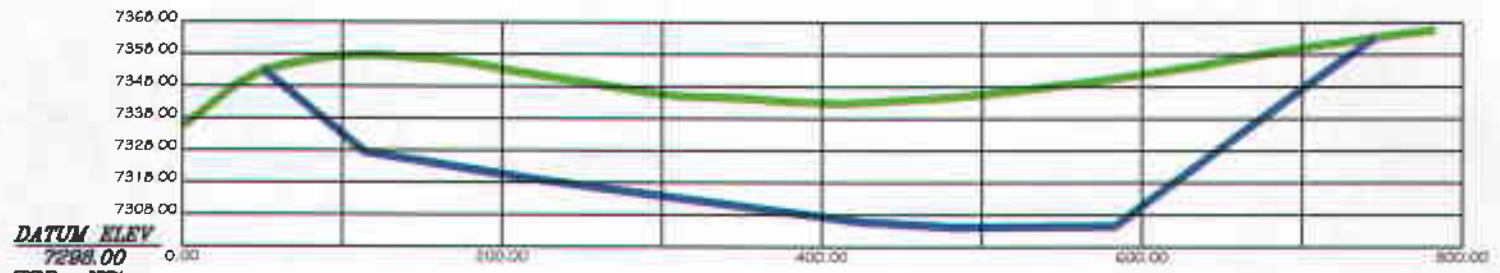
MINE EXCAVATION CROSS-SECTIONS

CROSS-SECTION A



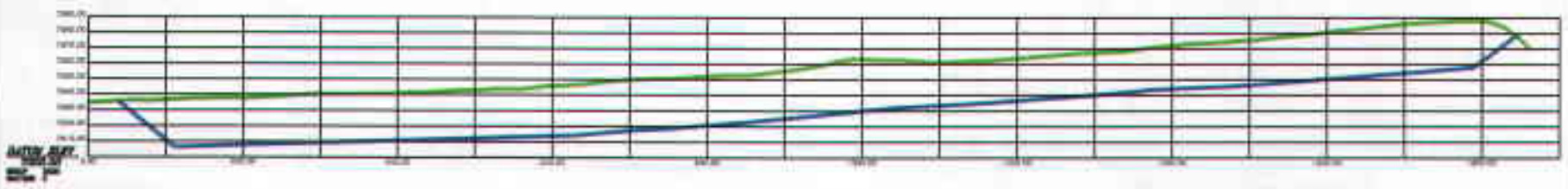
H SCALE: 1" = 120'

CROSS-SECTION B



H SCALE: 1" = 120'

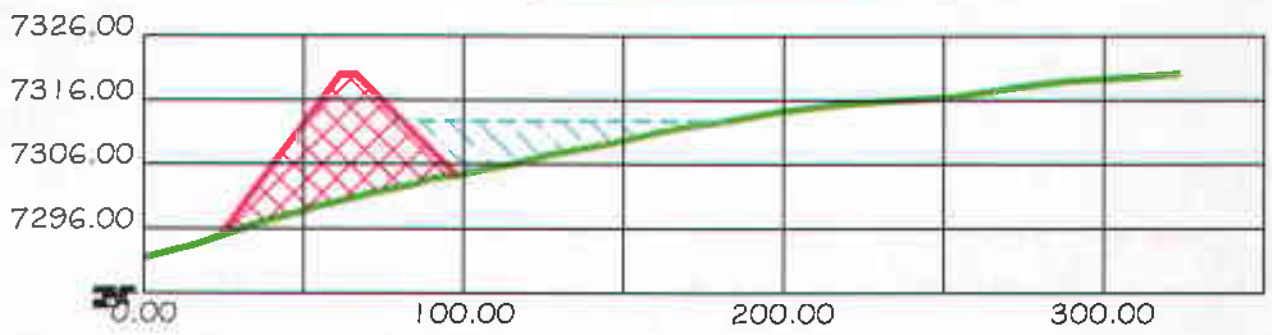
CROSS-SECTION C



H SCALE: 1" = 200'

STORM WATER RUNOFF IMPOUNDMENT AREA

CROSS-SECTION D



H SCALE: 1" = 60'

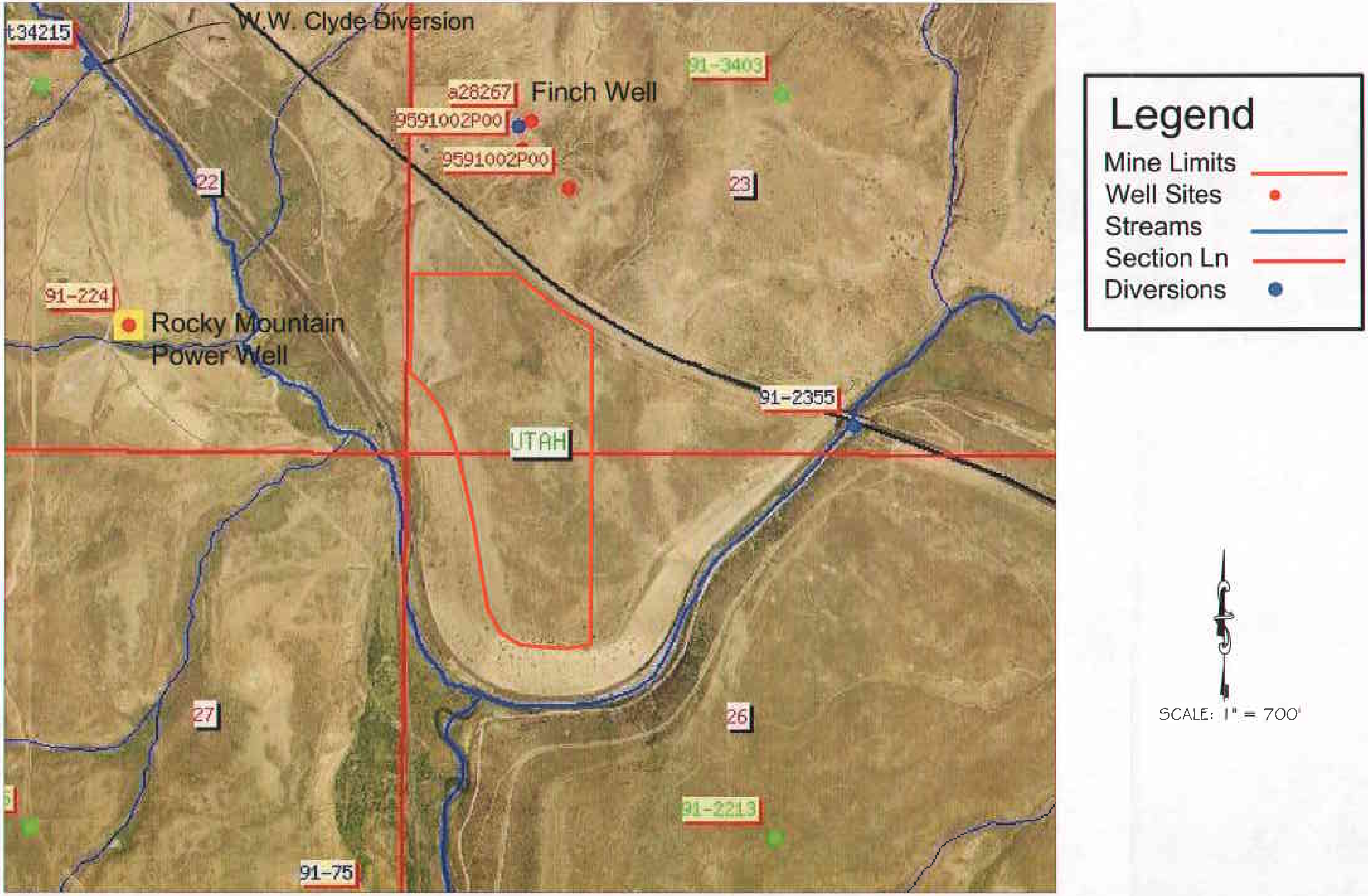
NOTE:

THE STORM WATER RUNOFF IMPOUNDMENT AREA, SETUP TO CATCH ALL SURFACE RUNOFF FROM THE CRUSHING AND PROCESSING AREAS, WILL BE REMOVED AS PART OF THE FINAL RECLAMATION PROCEDURES, AND RESTORED TO ORIGINAL LINES AND GRADES, AND SEEDED ACCORDING TO THE REVEGITATION / SEEDING PLAN.

LEGEND:

- EXISTING GROUND SURFACE
- FINAL QUARRY SURFACE
- CROSS-SECTION ELEVATION / DISTANCE GRID
- STORM WATER RUNOFF IMPOUNDMENT DIKE
- MAXIMUM RUNOFF STORAGE CAPACITY LINE

Drawn: LG	TITLE: WOOLSEY QUARRY FINAL CROSS-SECTIONS	Engineer:				W.W. CLYDE & COMPANY WOOLSEY QUARRY DOGM PERMIT APPLICATION	WW CLYDE & COMPANY 1375 N MAIN STREET SPRINGVILLE, UT 801-802-6600
Checked: DH / BH			NO.	DATE	DESCRIPTION:	BY:	
Approved:							
Date: 12.01.2008	FIGURE 6	Revision: 00					
Dwg. No. 7108 - 2004d							



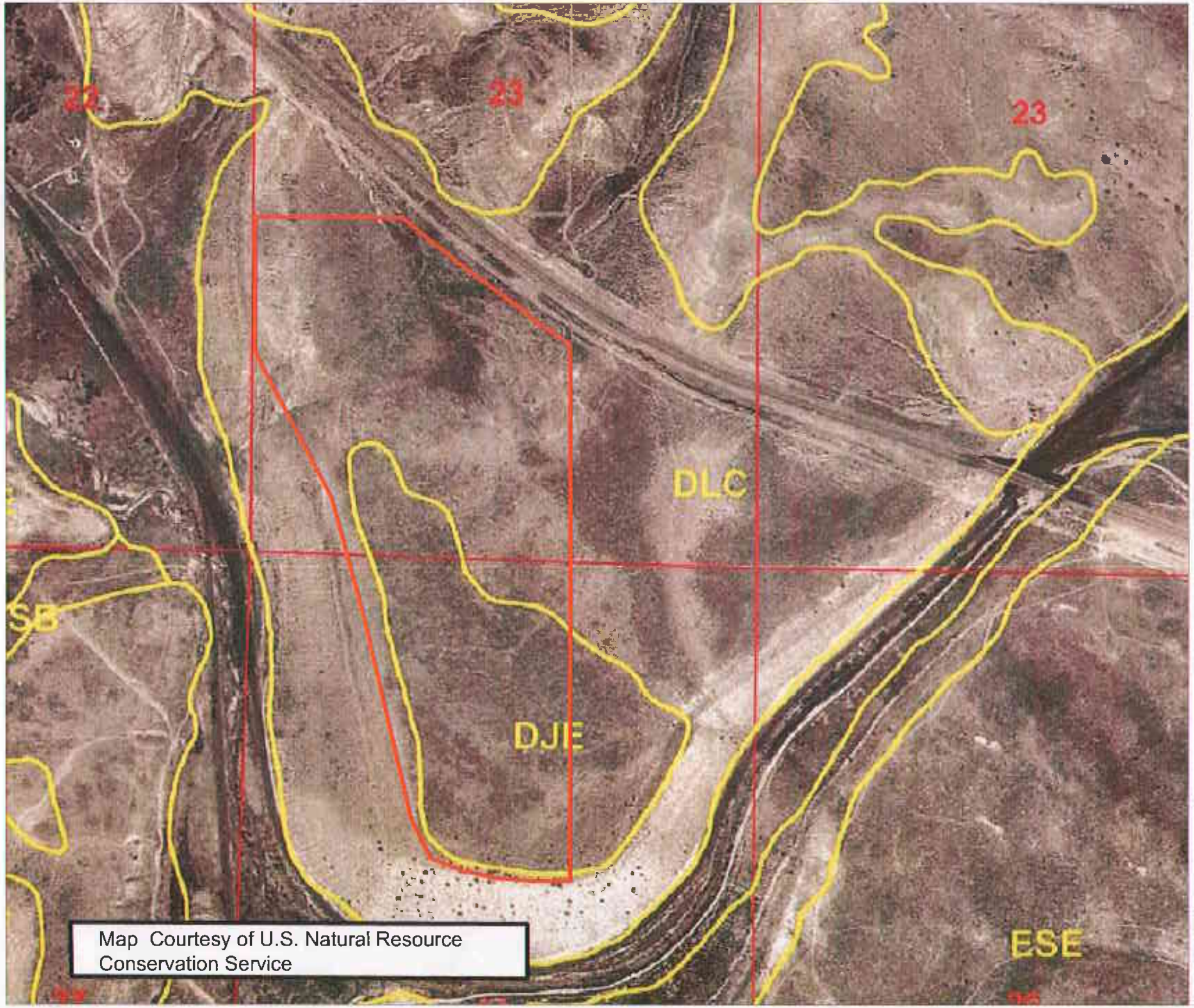
Drawn: B.SUMSION	TITLE: Utah State Div. of Water Rights Well Location Map - Figure 7	Engineer:	
Checked: BS/AS/CC			
Approved:			
Date: 08-11-2008	ISSUED FOR INTERNAL REVIEW	Revision	
Dwg. No. CCI-????		00	

NO.	DATE	DESCRIPTION	BY

WOOLSEY QUARRY DOGM PERMIT APPLICATION

WWCLYDE

CLYDE COMPANIES, INC
730 NORTH 1500 WEST
OREM, UTAH 84059
801-802-6900



Map Courtesy of U.S. Natural Resource Conservation Service

SCALE 1":450'

LEGEND

- Section Ln
- Soil Unit Bdy
- Mine Bdy

Note:
DJE = Aviintaquin-Floak-Pendant complex, 8 to 15 % Slopes
DLC= Osote-Emmapark association, 3 to 15% Slopes

CLYDE COMPANIES, INC
730 NORTH 1500 WEST
OREM, UTAH 84059
801-802-6900

WOOLSEY QUARRY DOGM PERMIT APPLICATION

NO	DATE	DESCRIPTION	BY

Engineer:

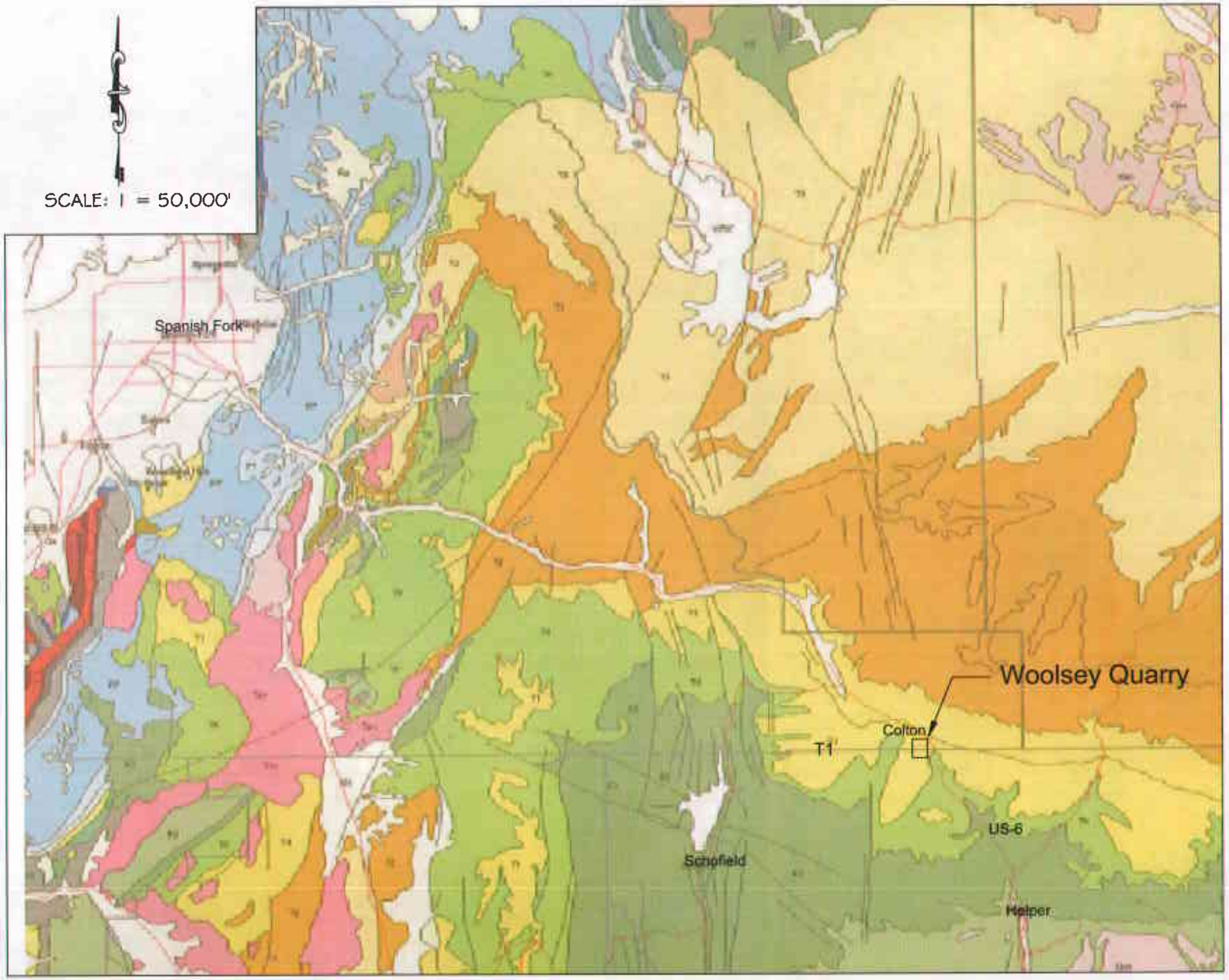
TITLE: SOIL MAP UNIT DESIGNATION FIGURE 8

Revision: 00

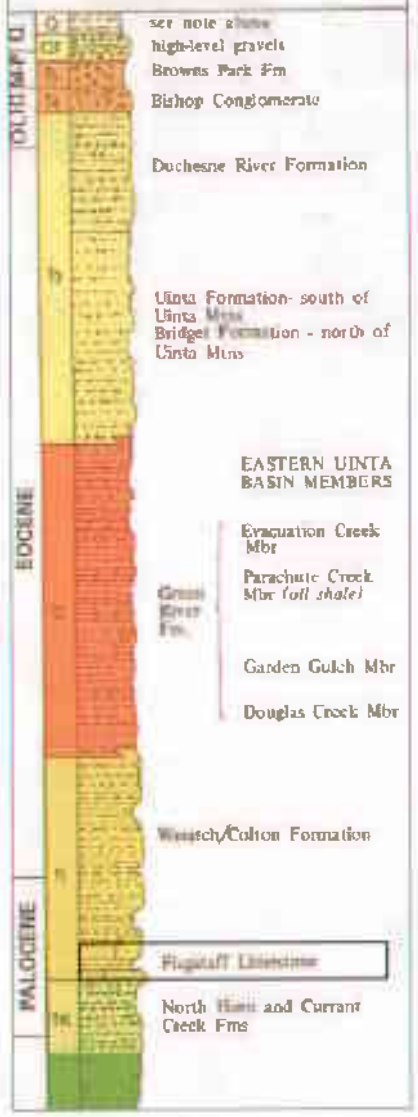
ISSUED FOR INTERNAL REVIEW

Drawn	BLM/SDN
Checked	BS/AS/CC
Approved	
Date	1-29-09
Dwg No.	COI-1777

SCALE: 1 = 50,000'



UINTA MOUNTAINS-
UINTA BASIN



CLYDE COMPANIES, INC
730 NORTH 1500 WEST
OREM, UTAH 84059
801-802-6900

WOOLSEY QUARRY DOGM PERMIT APPLICATION

NO	DATE	DESCRIPTION	BY:

Engineer:

TITLE: Woolsey Quarry Geologic Formation Map - Figure 9

Revision: 00

ISSUED FOR INTERNAL REVIEW

Drawn:	B SUMSION
Checked:	BS/AS/CD
Approved:	
Date:	06-11-2008
Dwg. No.	CQ1 - 1777

This page is a reference page used to track documents internally for the Division of Oil, Gas and Mining

Mine Permit Number M/049/0070 Mine Name WOOLSEY

Operator WW CLYDE Date Rec'd 5-13-09

TO OGM FROM WW CLYDE

CONFIDENTIAL

X CONFIDENTIAL __BOND CLOSURE __LARGE MAPS __EXPANDABLE

__MULTIPLE DOCUMENT TRACKING SHEET __NEW APPROVED NOI

__AMENDMENT __OTHER

Description YEAR-Record Number

__NOI X Incoming __Outgoing __Internal __Superceded

Cultural Survey from (Binder) NOI: 2009-0001

CONFIDENTIAL

___NOI __Incoming __Outgoing __Internal __Superceded

__NOI __Incoming __Outgoing __Internal __Superceded

__NOI __Incoming __Outgoing __Internal __Superceded

__TEXT/ 81/2 X 11 MAP PAGES __11 X 17 MAPS __LARGE MAP

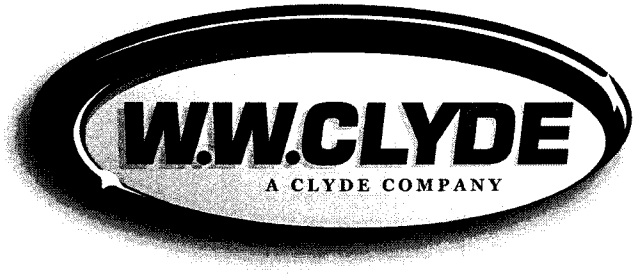
COMMENTS:

CC:

STORM WATER MANAGEMENT PLAN

W.W. Clyde & Co.
Woolsey Quarry

Prepared for:
W.W. Clyde & Co.



Prepared by

CLYDE COMPANIES INC.

CLYDE COMPANIES INC.
730 NORTH 1500 WEST
OREM, UT 84057
(801) 802-6900

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APPENDICES

1.0 BACKGROUND

1.1 UPDES Permit

In 1972, Congress passed the Federal Water Pollution Control Act (FWPCA), also known as the Clean Water Act (CWA), to restore and maintain the quality of the nation's waterways. The ultimate goal was to make sure that rivers and streams were fishable, swimmable, and drinkable. In 1987, the Water Quality Act (WQA) added provisions to the CWA that allowed the EPA to govern storm water discharges from industrial activities. EPA published the final notice for Phase I of the Multi-Sector General Storm Water Permit program (Federal Register Volume 60 No. 189, September 20, 1995, page 50804) in 1995 which included provisions for the development of a Storm Water Pollution Prevention Plan (SWPPP) by each industrial facility discharging storm water, including ready mix concrete facilities, asphalt production facilities, and sand and gravel mining operations.

The Utah Division of Water Quality developed the state-wide Utah Pollutant Discharge Elimination System (UPDES) program based on the federal standards. Utah is now in charge of its own state program – that is, it has "primacy" over the federal program.

The UPDES Permit is the mechanism Utah uses to regulate "point-source" discharges[1], including storm water discharges, to surface waters of the State. The SWP3 provides a site-specific, operator-driven set of pollution control standards for any discharges that occur at a particular industrial facility. A state-side "General Industrial Storm Water Permit" provides a blanket UPDES permit to those operators who certify that their SWP3 meets the standards set out in the UPDES program. The program has different standards depending on the industrial sector involved.

1.2 Waiver

This facility does not discharge storm water and is not required to obtain a UDPES permit. The facility shall be inspected and evaluated for the necessity of a permit whenever:

1. There is a significant change in the acreage disturbed; or a significant change to the design, construction, operation, or maintenance of on-site facilities that could have a significant effect on the quantity of runoff;
2. The inspection reveals a new discharge of water or one that has not previously been recognized by facility personnel.

If the evaluation reveals that the facility is not longer capable of containing runoff, and a significant discharge is found, then a UPDES permit shall be acquired and a SWP3 shall be implemented. The SWP3 shall be specific to the site and follow the guidelines as outlined for the sector under which the facility operates (Sector D: Asphalt Manufacturing; Sector E: Concrete Manufacturing; Sector J: Sand and Gravel Operations).

2.0 STORM WATER MANAGEMENT PLAN (SWMP)

Clyde Companies has prepared a general Storm water Management Plan that is adaptable to most W.W. Clyde Co. facilities. Development, implementation, and maintenance of this Storm water

[1] A "point source" discharge is a flow of water or effluent that enters a stream or river from a particular identifiable location, rather than "non-point source" discharge, such as overland flow, which comes from several locations, such as runoff from an agricultural field or pasture.

Management Plan will provide W.W. Clyde & Co. with the tools to reduce pollutants contained in storm water at the facility.

The primary goals of the SWMP are to:

- Identify potential sources of pollutants that affect storm water at the site;
- Describe the practices that will be implemented to prevent or control the release of pollutants in storm water;
- Evaluate the plan's effectiveness in reducing the pollutant levels in storm water.
- Train employees on effective storm water management

2.1 Facility Contacts

A list of facility contacts along with emergency reporting procedures can be found in **Appendix A** of the document.

2.2 Facility Maps

Appendix B contains maps specific to this facility which show: location, size, operations, and runoff environment.

3.0 POLLUTANT SOURCES

3.1 Inventory of Materials

Materials used by the facility that have the potential to be present in storm water runoff are listed in the following table. This table includes information regarding material type, chemical and physical description, and the specific regulated storm water pollutants associated with each material.

Trade Name Material	Chemical/Physical Description	Storm Water Pollutants
Limestone, marl, chalk	White solid	Calcium carbonate, turbidity
Lime	White to slightly yellowish solid	Calcium Oxide
Clay, sand, shale	Solid	Silicon, suspended solids, turbidity
Asphalt Cement	Solid at Ambient Temperature	Petroleum Distallates
Silicates	Fine powder	Dicalcium and tricalcium silicates
Gypsum (calcium and sulfur based mineral)	White solid	Calcium sulfate

Waste fuel (motor oil, spent solvents, printing inks, paint residues, cleaning fluids, scrap tires)	Various colored liquids, pastes, and solids, petroleum hydrocarbons	Mineral oil, petroleum distillates
Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE
Diesel Fuel		Nonane, Ethyltoluenes, Naphthalene

3.1.1 Practices used to minimize contact of materials with rainfall and runoff

- Material piles are kept in a compact shape to minimize surface area.
- Materials are stored on flat areas that do no pond, and on areas that drain into the drainage system whenever possible. No materials are stored within a drainage area.

3.1.2 Existing nonstructural controls that reduce pollutants in storm water runoff

- Regular maintenance of machinery and equipment minimizes spills and leaks.
- Quarterly inspections of fluid containers to check for leaks and deteriorations. Any leaks identified during the inspection will be immediately cleaned using a dry absorbent.
- An emergency spill kit with the supplies necessary to clean a fuel spill (a broom, a shovel, sand, saw dust, a 55-gallon drum) is stored in a convenient location near the fueling station area and in the shop so they will be immediately available in the event of a spill.
- A spill prevention plan is implemented as a resource to prevent spills, or in the event of a spill, to aid in the clean-up process. The plan addresses proper procedures and maintenance of the fuel and oil products and equipment, and identifies supplies and equipment for quick spill response.

3.1.3 Structural controls that reduce pollutants and storm water runoff

Structural controls that reduce contaminates in storm water runoff include: oil/water separators, retention ponds, berms/swales, and secondary containment for fuel/oil (see SPCC plans).

3.2 Risk Identification and Summary of Potential Pollutant Sources

3.2.1 Loading and unloading operations

- Sediment can fall from loaders while dump trucks are being loaded with soil or aggregate materials. Minor leaks can drain from equipment used at the loading site.

3.2.2 Outdoor manufacturing/process activities

- *Parking areas:* Employees park their vehicles in the parking lot area. Storm water from this area can be potentially contaminated by leaking fluids from the parked vehicles. These contaminants may contain mineral oil, petroleum, distillates, benzene, ethyl benzene, toluene, xylene, and MTBE.
- *Fueling areas:* Fueling activities are performed at the fuel storage areas. Storm water from these areas can be potentially contaminated by fluids leaking from the trucks during refueling activities and spills and leaks at the fueling station. These

contaminants may contain mineral oil, petroleum distillates, benzene, ethyl benzene, toluene, xylene, and MTBE.

- *Sand and Gravel Truck Loading/Unloading areas:* Trucks unload sand and gravel in the sand and gravel truck unloading area. Storm water from this area can be potentially contaminated by fluids leaking on to the gravel surface from the trucks and by sand and gravel spills. These contaminants may contain mineral oil, benzene, toluene, xylene, MTBE, silicon, dissolved solids, suspended solids, calcium sulfate, tricalcium aluminate, and tetracalcium aluminoferrite.

3.2.3 Dust/particle generating activities

- Dust is generated as materials are loaded/unloaded, moved from one stockpile to another, and transferred by conveyer belt. Dust is also generated by vehicles traveling on the unpaved roads between facility operations. All roads and materials are sprayed to control fugitive dust and all activities occur within the perimeter of the facility, so the sediments that may contaminate storm water runoff will remain onsite.

3.2.4 On-site waste disposal practices

- Sources of waste include office waste, employee lunch waste, small lubricant cans and buckets, cloths used for cleaning, etc... Any of these waste sources could become scattered across the site due to wind, inadequate disposal containers or sloppy employee housekeeping. Trash cans are provided and emptied on a regular basis to ensure no storm water is adversely affected.

4.0 MEASURES AND CONTROLS

This section discusses the storm water management controls implemented at the facility and describes the management practices selected to address the areas of concern identified in Section 3 of this SWMP.

4.1 Good Housekeeping

Good housekeeping Best Management Practices (BMPs) refers to ongoing or regular practices that ensure that areas of the facility with a potential to contribute pollutants to storm water are kept clean and orderly. The following comprise some of the good housekeeping practices that are routinely followed:

- Litter is controlled through employee awareness, trash receptacle placement, and frequent cleanup, among other controls. New employees are instructed in litter control as part of their initial Geneva training. Wind blown litter and other debris is periodically cleaned up from the entire facility.
- Fueling and servicing takes place in designated areas away from surface water collection areas.
- To reduce the chance of spills during fueling, the equipment operator remains at the fueling point while the tank is being filled. All valves are opened immediately prior to, and closed immediately after, fueling.
- Tanks and drums are refilled and/or re-supplied between once a day and once a week by a contractor. All tanks and drums are secondarily contained.

- A spill kit is maintained on site to absorb any spilled fuel
- A detailed description of preventive and clean-up measures for fuel and oil spills can be found in the SPCC which is kept on site at all times.

4.2 Preventive Maintenance

- Vehicles, equipment, and machinery are kept in good working order so that their likelihood of discharging fluids that could contact storm water is minimized.
- Water systems used in dust control are regularly maintained to avoid small, chronic leaks or larger-volume releases.
- Earthen slopes and retention berms/swales are maintained in order to reduce erosion and storm water transport of their materials as well as continue to serve their intended function.
- The inspection procedures discussed in Section 4.4 ensure that items requiring maintenance are identified. If maintenance is needed, items are repaired as soon as practicable. During the next inspection, special attention is paid to those items in order to verify that maintenance activities were adequately completed.

4.3 Other Controls

All wastes created during operations are removed from the area and disposed of appropriately. No trash or other pollutants will be buried on site. All applicable Federal, State and/or local waste disposal regulations will be complied with.

Any gasoline, diesel fuels, lubricants, and other potential pollutants stored on the property are stored in double-walled tanks. Grease, oil, and lubricants are stored within an enclosed shop and are inventoried on a regular basis.

4.4 Inspections

Once a quarter, material handling and storage areas, drum storage areas, conveyors, hoppers, and stockpile areas are inspected to assure that there are no leaks, fuel or oil deposition areas, or other signs that hydrocarbons are uncontrolled. Storm water control structures and equipment such as berms, sediment control and collection systems, and containment structures are also inspected to ensure continued proper operation. Inspections are conducted quarterly during each of the following periods: January to March, April to June, July to September, and October to December.

A blank inspection report form is located in **Appendix C** and will be completed and signed by the inspector at the time of each inspection. If the inspection report describes deficiencies in pollution control equipment, structures, or procedures, the deficiencies will be corrected as soon as possible following the inspection, and prior to the next anticipated significant storm event. A description of all actions and shall be documented and retained as part of this plan. Geneva will retain copies of the completed inspection reports (**Appendix D**) for a minimum of three years from the date of inspection.

As stipulated in the SPCC Plan, fuel and oil products, and their containment systems will be inspected in accordance with the SPCC Plan inspection schedule.

4.5 Employee Training

An employee training program will be developed and implemented to educate employees about the requirements contained in these plans and other plans relating to storm water and spill prevention. This education program will include the following:

- Background on the components and goals of storm water pollution prevention
- Hands-on training in spill prevention and response
- BMPs to be used at the facility
- Education on storm water pollution prevention
- Question and answer session
- Other topics considered pertinent during each session

All new employees will be trained within one week of their start date. Additionally, employees will be required to participate in an annual refresher training course. An employee sign-in sheet for the refresher course can be found in **Appendix E** of this document. The training program will be reviewed annually to determine its effectiveness and to make any necessary changes to the program. Training records shall be retained for a minimum of three years.

4.6 Record Keeping and Internal Reporting Procedures

Records described in this plan must be retained on site for a minimum of 3 years, and shall be made available to the state or federal compliance inspection officer upon request. Additionally, employee training records shall also be maintained.

APPENDIX A

FACILITY CONTACTS AND REPORTING PROCEDURES

APPENDIX B

FACILITY MAPS

APPENDIX C

INSPECTION REPORT FORMS

Quarterly Visual Inspection Form

	Geneva Rock Products Location:
Inspectors Name:	
Inspection Date:	Inspection Time:

Directions: Perform a walk-through of the facility when rain is not falling and check YES or NO for each item. Record any corrective actions that are needed. Review the SWPPP and complete Section 4. Describe the corrective actions that were taken in Section 5.

1. Housekeeping	Yes	No	Corrective Actions/Maintenance Required
- Litter is picked up?			
- Trash receptacles no overflowing?			
2. Materials and Equipment	**Yes**	**No**	**Corrective Actions/Maintenance Required**
- Aggregate material storage piles located within the batch plant?			
- Process and mobile equipment positioned within the batch plant?			
- Obsolete equipment located in proper storage area?			
- Any signs of leakage from process, mobile, and obsolete equipment?			
- Preventive maintenance has been performed on mobile equipment?			
- Silos and storage tanks no leaking?			
- Secondary containment area in good condition (i.e., no cracks, no signs of leaks)?			
3. General	**Yes**	**No**	**Corrective Actions/Maintenance Required**
- Any evidence of erosion/			
- Perimeter berms in good condition?			
- Roads and parking lots in good condition (i.e., no erosion or ruts)?			
- Any new problem areas or potential pollutant sources?			

4. SWPPP Review

- If deficiencies were noted above, are changes to the SWPPP required? YES NO
- If yes, describe the revisions that were made: _____

5. Corrective Actions Taken

- For the corrective Actions/Maintenance Required that were identified above, enter the action that was taken and the date:

APPENDIX D

COMPLETED INSPECTION REPORT FORMS

APPENDIX E

EMPLOYEE TRAINING RECORDS

SWMP Training Sign-In Sheet

Date	Employee Name	Employee Signature